STIC-Biot ch/ChemLib

From:

Schnizer, Holly

Tuesday, December 10, 2002 9:30 AM

To:

Sent:

STIC-Biotech/ChemLib

Subject:

seq. search for appl. no. 09/444,281

RECEIVED

GEC 10 2019

(STIC)

Please search the commercial and interference databases for:

SEQ ID NOs: 35 and 36 and,

a peptide with the following sequence (SEQ ID NO: 35)(SEQ ID NO:27)(SEQ ID NO:35)

Thank you.

Holly Schnizer AU 1653 CM1-9E09 305-3722 mailbox: M1-9B01

9E09

Searcher: Point of Contact
Phone: P. Sneppard
Location: P. Sneppar

TYPE OF SEARCH:
NA Sequences:
AA Sequences:
Structures:
Bibliographic:
Litigation:
Full text:
Patent Family:
Other:

/ENDOR/COST (where applic.)
STN:
DIALOG:
Questel/Orbit:
DRLink:
Lexis/Nexis:
Sequence Sys.:
WWW/Internet:
Other (specify):

THIS PAGE BLANK (USPTO)

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Run on:
           11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
11554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB seq length: 0
DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                       70.
67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SPTREMBL_21:*
1: sp_archea:*
2: sp_bacteria
3: sp_fungi:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-444-281-35-27-35
241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     671580 segs, 206047115 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ILKKWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           December 11,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sp_plant:*
sp_viouent:*
sp_virus:*
sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
sp_bacteriap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sp_organelle:*
sp_phage:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sp_archea:*
sp_bacteria:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sp_fungi:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sp_mhc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sp_mammal:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sp_invertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sp_human:*
                                                                                                                                                                                                                                                                                                        1245
746
723
175
49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2002, 15:37:24; Search time 28 Seconds (without alignments) 272.277 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                    Q9Y7V5
2 Q9JH31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IJ
     Q9DUC4
Q91RD8
Q91RB0
Q928B7
Q928B7
Q9DT81
Q9DT81
Q91704
Q6377E2
Q8TWG0
Q84C18
Q94C18
Q94C18
Q94C19
Q94C18
Q94C18
Q94C18
Q94C18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   671580
O9y7v5 trichoderma
O9jh31 tt virus. o
O9duc4 tt virus. o
O91rd8 tt virus. o
O9dt80 tt virus. o
O9dt80 tt virus. o
O9dt81 tt virus. o
O8tw90 methanopyru
O94ci8 lycopersico
O8tw91 tt virus. o
O9duc9 tt virus. o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Description
```

 $\begin{array}{c} 117 \\ 127 \\$

ALIGNMENTS

OY 4 KWPWWDWRRKHEAEPEAEPIMILKKWPWWPW 34 : : Db 1185 RWQWWSWPRRGRGCWQWWSW 1204	Query Match 29.3%; Score 70.5; DB 3; Length 1245; Best Local Similarity 29.0%; Pred. No. 2.3; Matches 9; Conservative 2; Mismatches 9; Indels 11; Gaps	DR PROSITE; PS01346; CLAUDIN; UNKNOWN_1. SQ SEQUENCE 1245 AA; 135824 MW; 3249C749AFAOCDF8 CRC64;	DR Interpro; IrRO(1673; S_mold_repeat. DR ProDom; PD006869; S_mold_repeat; 2.	RL Fungal Genet. Biol. 27:88-99(1999). DR EMBL; AJ133651; CAB40845.1;	RT Conidiospore surface protein of Trichoderma.";	Van Montagu M., Herrera Estrella A., Horwitz B.A.;	RA Puyesky M., Benhamou N., Ponce Noyola P., Bauw G., Ziv T.,	RP SEQUENCE FROM N.A.		GN CMP1.	DT 01-JUN-2002 (TrEMBLrel. 21, Last annotation update)	DT 01-NOV-1999 (TEMBLIEL 12, Credical)	Q9Y7V5;	ID Q9Y7V5 PRELIMINARY; PRT; 1245 AA.	RESULT 1	
	1;															

-

N

```
SO SET PRINTER
                                                                                                                                                                                                                                                                                                                        g,
                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 11
Query Match
                                                                                                                                                                                                                                        Q9DUC4
Q9DUC4;
Q1-MAR-2001
01-MAR-2001
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-OCT-2000
01-OCT-2000
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9JH31
Q9JH31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Okamoto H. Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORF1
                                                                                                                                                                                                                                ORF1
                                                                                                                                                                                                                                                                                                                                                                                              Arch. Virol. 145:1543-1559(2000).
EMBL; AB028669; BAA94878:1; -.
InterPro; IPR004219; TTvirus_Unk.
Pfam; PF02956; TT_ORF1; 1.
SEQUENCE 746 AA; 88561 MW; E0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TT virus.
Viruses; ssDNA viruses;
NCBI_TaxID=68887;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=20456801; PubMed=11003468; Ukita M., Okamoto H., Nishizawa T., Tawa Iizuka H., Miyakawa Y., Mayumi M.; "The entire nucleotide sequences of two
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-TJN02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Okamoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=TJN02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                        Okamoto H., Nishizawa T.; Tawara A., Peng Y., Takahashi M., Kishimoto J., Tanaka T., Miyakawa Y., Mayumi M.; "Species-specific TT viruses in humans and nonhuman primate phylogenetic relatedness.; Virology 277:368-378(2000).
                                                                                                                                                                                                                       TT virus.
                                                                                                                       STRAIN=MF-TTV9;
MEDLINE=20534983; PubMed=11080484;
                                                                                                                                                                                                    Viruses; ssDNA viruses; NCBI_TaxID=68887;
                    SEQUENCE
                                                                                                                                                          Submitted
                                                                                                                                                                    Okamoto H.;
                                                                                                                                                                           STRAIN=MF-TTV9;
                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                            isolates.'
                                                                                                                                                                                                                                                                                                                                                                                                                                                    isolates (TJN01 and TJN02)
                            PROSITE;
                                               InterPro;
                                                        InterPro;
                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                        ω
                                                                                                                                                                                                                                                                                                                                          σ
           WPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                                                                         WGWWRWRR----
                                                                                                                                                                                                                                                                                                                                                            l similarity 33...
11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (JUN-1999)
                                                                                                                                                          (APR-2000) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                                        [ (TrEMBLrel. | (TrEMBLrel. | )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                    28.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6
  27.8%;
                                                                                                                                                                                                                                         16,
16,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15,
15,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unclassified ssDNA viruses
                                                                                                                                                         the EMBL/GenBank/DDBJ
                                                                                                                                                                                                               unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                      remotely
                                                                                                                                                                                                                                        Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                          Score 67.5; D
Pred. No. 3.2;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                           -RWPARRWRRR
                                                                                                                                                                                                                                                                                                                                                             2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL/GenBank/DDBJ databases
  Score 67;
                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                 E0B22953AE764E3E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tawara
                                                                                                                                                                                                                                                                                                                                                                                                                                                      related
                                                                                                                                                                                                               ssDNA viruses
                                                                                                                                                                                                                                                                              723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 746 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                              distinct TT virus (TTV)
   DB
                                                                                                                                                                                                                                                                                                                                                                      .2
                                                                                                                                                                                                                                                                              AA
                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Α.,
  12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      to the original TTV
                                                                                                                                                                                                                                                                                                                                                                               12;
                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                           databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Takahashi
  Length 723;
                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                            primates
                                                                                                                                                                                                                                                                                                                                                                               746;
                                                                                                                                                                                                                                                                                                                                                              15;
                                                                                              and their
                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                               Ļ
```

```
RESULT
Q91RD8
                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                Qy
                                                                                                   Q9DT80
                                                                                                                                                                                                                                                                           RESULT 5
                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                       Qy
Db
                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity
Matches 11; Conserv
                                            Query Match
Best Local :
                                    Matches
                                                                                                                                                                                                    ORF1 (Frag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q91RD8
Q91RD8;
                                                                                                                                                                                                                                                                                                                                                                              Liu Z.H., Luo K.X., Hu J., He H.T
Submitted (APR-2001) to the EMBL/
EMBL; AF371370; AAK54733.1; -.
InterPro; IPR004219; TTTurus_Unk.
Pfam; PF02956; TT_ORF1; 1.
SEQUENCE 175 AA; 22073 MW; 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORF3
                                                                                                                                                                                                                      01-MAR-2001
01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TT virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-DEC-2001
01-JUN-2002
                                                                                                                                            STRAIN=TYM9;
MEDLINE=20568739; PubMed=11118348;
                                                                                                                                                                                Viruses; ssDNA viruses;
NCBI_TaxID=68887;
                                                                                                                                                                                                                                       Q9DT80;
01-MAR-2001
                                                                                                                                                                                                                                                         Q9DT80
                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=L03
                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=68887;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Viruses; ssDNA viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-DEC-2001
                                                                         SEQUENCE
                                                                                Biochem Biophys.
EMBL; AB050449; E
NON_TER 49
                                                                                                                   Sai T., Sugai Y.; "TT virus mRNAs detected in the bone marrow cells
                                                                                                                                      Okamoto H., Nishizawa T.,
                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                           .ndividual.";
                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                       ω
                                                                                                                                                                                                                                                                                                                         ъ
ω
                  ഗ
                                                                                                                                                                                                            (Fragment).
                                                                                                                                                                                                                                                                                                       WSWW-WRRRKR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PWWPWRR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                                                                         WPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK
WTWW-WQRRRRR---
                  WPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK
                                   10;
                                                                                                                                                                                                                                                                                                                                           l Similarity
11; Conser
                                                                        49 AA;
                                                                                                                                                                                                                                                                                                                                         26.6%;
nilarity 33.3%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                      (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                    Conservative
                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                          BAB19930.1;
                                                                                                    Res.
                                                                         7225 MW;
                                            26.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34.4%;
                                                                                         Commun.
                                                                                                                                                                                            unclassified
                                                                                                                                                                                                                       16,
16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19,
19,
21,
                                                                                                                                      Tawara A.,
                                   score 63; DB; Pred. No. 0.79
                                                                                                                                                                                                                       Created)
Last sequence
Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
Last sequence up
Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                        ----WWPRRRR
                                                                                                                                                                                                                                                                                                                                          Score 64; DB 1 Pred. No. 2.1; 2; Mismatches
                                                                                                                                                                                                                                                                                                                                           2
                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No.
                                                                         1DA6F8F1AB69AA43 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -WRRWRRR 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                            H.T.;
                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                               5212D7DA3FD72F81 CRC64;
                                                                                                    279:700-707(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                       sequence update) annotation updat
                                                                                                                                                                                            ssDNA viruses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ssDNA viruses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        175
                                                                                                                                      Takahashi M., Kishimoto J.,
                                                                                                                                                                                                                                                          49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3.6;
                                                                                                                                                                                                                                                                                                        19
                                                                                                                                                                                                                                                                                                                         37
                   37
 19
                                                       DB 12;
                                               .79;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
                                                                                                                                                                                                                                                          Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                              12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    update)
                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                   databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2:
                                     4;
                                                                                                                                                                                                                                                                                                                                           4.
                                                                                                                                                                                                                                                                                                                                                             Length 175;
                                                     Length
                                                                                                                      from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                            Indels
                                      Indels
                                                        49;
                                                                                                                      an
                                                                                                                                                                                                                                                                                                                                             16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18;
                                      16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                            Gaps
                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1;
                                                                                                                                                                                                                                                                                                                                             2
                                      2
```

RESULT Q928B7

ì

```
ID

ACCOMMODITE

A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                        01-MAR-2001
01-MAR-2001
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAY-1999
01-MAY-1999
01-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9DT81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; "Comparison of whole genome sequences of Chlamydia pneumoniae J from Japan and CWL029 from USA."; Nucleic Acids Res 28:3311-2314(2000).

EMBL; AE001625; AAD18570.1; -.

EMBL; AE002194; AAF38182.1; -.

EMBL; AP002546; BAA98634.1; -.
                         MEDLINE-20568739; PubMed-11118348; Okamoto H., Nishizawa T., Tawara A Sai T., Sugai Y.;
                                                                                                                                                                                                                                           TT virus.
Viruses; ssDNA
                                                                                                                                                                                                                                                                                                              ORF1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Read T.D., Brunham R.C., Shen C., Gill S.R., H
White O., Hickey E.K., Peterson J., Utterback
Linher K., Weidman J., Khouri H., Craven B., E
Gwinn M., Nelson W., DeBoy R., Kolonay J., McC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=9920606; pubMed=10192388;
Kalman S., Mitchell W., Marathe R., Lammel C., Fan on
Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
"Comparative genomes of Chlamydia pneumoniae and C."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CT277 SIMILARITY (CPJ0426 protein).
CPN0426 OR CPJ0426 OR CPJ0327.
Chlamydia pneumoniae (Chlamydophila pneumoniae)
Bacteria; Chlamydiales; Chlamydiaceae; Chlamydo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Genome sequences of Chlamydia trachomatis pneumoniae AR39.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-AR39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=CWL029;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=20330349; PubMed=10871362;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=20150255; PubMed=10684935;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=83558;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic Acids
                                                                                                                                                                                                                     NCBI_TaxID=68887;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5 WPWWPWRRKHEAEPEAEPIMILKKWP
         virus mRNAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPWLPKKRQIEKLPKGEGICFLSAYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AP002546;
CP0327; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       J., Fraser C.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      proteome.
192 AA;
                                                                                                                                                                                                                                                                                                                                        (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel. 10, Created)
(TrEMBLrel. 10, Last sequence up)
(TrEMBLrel. 19, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21:385-389(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Res.
                                                                                                                                                                                                                                                  viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28:1397-1406(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21464 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26.1%;
                                                                                                                                                                                                                                                                                                                                        16,
16,
21,
                                                                                                                                                                                                                                                  unclassified
      ä
                                                                                                                                                                                                                                                                                                                                     Created)
Last sequence upor Last annotation of the control of the 
      the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9C38C329AEDDB76F CRC64;
      bone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                            Α.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ.
      marrow
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 748
                                                            Takahashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chlamydophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DВ
                                                                                                                                                                                                                                                                                                                                                                        update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MoPn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    McClarty G.,
                                                                                                                                                                                                                                                                                                                                        update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Heidelberg
   cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11;
                                                            3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fan J., Hyman
R.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 192;
                                                            Kishimoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pneumoniae J138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      trachomatis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J.F.,
K., Bass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Salzberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dodson
   infected
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 R., rg S.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
```

```
RESULT
Q91D04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SQ DR DR RT
                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-DEC-2001
01-DEC-2001
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORF1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Biochem. Biophys. Res. Commun. 27
EMBL; AB050448; BAB19928.1; -.
InterPro; IPR004219; TTVITUS_Unk.
Pfam; PF02956; TT_ORF1; 1.
SEQUENCE 748 AA; 88552 MW; D6
        or LIRn) of the rat.;
Mol: Cell. Biol. 6:411-424(1986).
EMBL; M13100; AAA66046.1;
InterPro; IPR000566; Lipocln_cytFABP.
PROSITE; PS00213; LIPOCALIN; UNKNOWN.
                                                         MEDLINE-87064324; PubMed=3023845; D'Ambrosio E., Waitzkin S.D., Witn "Structure of the highly repeated,"
                                                                                                                                                             01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-UN-2001 (TrEMBLrel. 17, Last annotation updat
Hypothetical 43.7 kDa protein.
                                                                                                                                                                                                                Q63778
                                                                                          SEQUENCE FROM N.A. TISSUE-LIVER;
                                                                                                                                Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                       Q63778;
                                                                                                                                                                                                                                                                                                                                                                                          multiple tissues from infected Virology 288:358-368(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                         Yoshikawa A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Okamoto H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. MEDLINE=21488921; PubMed=11601907;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TT virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q91D04;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q91D04
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             individual.";
                                                                                                                        NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                     virology 288:358-368(2001).

EMBL; AB060592; BAB69900.1; -.

InterPro; IPR004219; TTvirus_Unk.
                                                                                                                                                                                                                                                                                                                                                                                                               "Heterogeneous distribution of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=68887;
                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                      G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 WPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                               WPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WTWW-WQRRRRR----
                                                                                                                                                                                                                                                                  WTWW-WQRRRRR---
                                                                                                                                                                                                                                                                                                                                                              PF02956;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                          Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ssDNA viruses;
                                                                                                                                                                                                                                                                                                                                                    750 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Nishizawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (TrEMBLrel.
                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                              _ORF1;
                                                                                                                                                                                                                                                                                                                                                    89223 MW;
                                                                                                                                                                                                                                                                                                                     26.1%;
30.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19,
19,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                  Takahashi
                                                                                                                                                                                                                                                                                                          ω,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred.
                                                                                                                                                                                                                                                                                                                     Score 63;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 63; DB
Pred. No. 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---WPWRRR
                                                                      Witney
                                                                                                                                Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                     humans
                                                                                                                                                                                                                                                                                                                                                                                                               T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  279:700-707(2000).
                                                                                                                                                                                                                                                                                                                                                    616EC86DC3469091 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D65CCB2CAA5CE26F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                   WPWRRR
                                                                                                                                                                                                                                                                                                                                                                                                      virus
mans.";
                                                           long
                                                                                                                                                                                                                                                                                                                                                                                                                                 X
                                                                     F.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ssDNA viruses
                                                                                                                                                                                                                 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19
                                                                                                                                                                                                                                                                                      37
                                                           R., Salemme A., Fu
interspersed DNA
                                                                                                                                                                                                                                                                                                                              DB
                                                                                                                                                                                                                                                                                                                                                                                                              of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB
                                                                                                                                                                                                                                                                                                                                                                                                                                 Asabe
                                                                                                                                                                                                                 ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                      Salemme
                                                                                                                                                                                                                                                                                                                              12;
                                                                                                                                                                                                                                                                                                                                                                                                               distinct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               update)
                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                s.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 748;
                                                                                                                                                                                                                                                                                                                              Length 750;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Tsuda
                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                             genotypes
                                                                      Furano
                                                                                                                                                                                                                                                                                                                                                                                                                                  ***
:
                                                                                                                                                                                                                                                                                                          16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16;
                                                                                                                                  Rattus
                                                                                                                                                                                                                                                                                                          Gaps
                                                            (LINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                          2
```

0;

Gaps

0;

```
В
                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
Q8V7E2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 _{\rm SO}
                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
        Complete
SEQUENCE
                         MEDLINE=21927647; PubMed=11930014; Slesarev A.I., Mezhevaya K.V., Makarova K.S., Polushin N.N., Slesarev A.I., Mezhevaya K.V., Belova G.I., Aravind L., Shcherbinina O.V., Shakhova V.V., Belova G.I., Aravind L., Natale D.A., Rogozin I.B., Tatusov R.L., Wolf Y.I., Stetter K.O., Natale D.A., Rogozin E.V., Kozyavkin S.A.; "The complete genome of hyperthermophile Methanopyrus kandleri AV19 and monophyly of archaeal methanogens."; Proc. Natl. Acad. Sci. U.S.A. 99:4644-4649(2002).
                                                                                                                                                                                                                           Q8TWG0;
01-JUN-2002 (TrEMBLrel.
01-JUN-2002 (TrEMBLrel.
01-JUN-2002 (TrEMBLrel.
                                                                                                                            STRAIN=AV19 / DSM 6324 / JCM 9639;
                                                                                                                                                                                                         NAD-dependent
SIR2 OR MK1075
                                                                                                                                                                                                                                                                           Q8TWG0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=21844401; PubMed=11855633;
MEDLINE=21844401; PubMed=11855633;
                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                              NCBI_TaxID=2320;
                                                                                                                                                                                 Archaea; Euryarchaeota;
                                                                                                                                                                                             Methanopyrus kandleri.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-MAR-2002 (TrEMBLrel.
01-MAR-2002 (TrEMBLrel.
01-JUN-2002 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                Arch. Virol. 147:21-41(2002).
EMBL; AB064615; BAB79374.1; -
InterPro; IPR004219; TTvirus_Unk.
Pfam; PF02956; TT_ORF1; 1.
NON_TER 92 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     classifiable into the fourth viremic infants.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORF1 (Fragment).
TT virus.
                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Okamoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q8V7E2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q8V7E2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Analysis of the complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=68887;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Viruses; ssDNA viruses;
                                                                                                                                                                                                                                                                                                 11
                                                                                                                                                                                                                                                                                                                                  w
                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25 IFSKWCWFNWRATCRRMQIDPSLSPCTKLKSKW 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                   7 WWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ILKKWPWWPWR---RKHEAEPEAEPIMILK-KW 29
                                                                                                                                                                                                                                                                                                                                  WWRYRRR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity
13; Conserv
                 proteome.
                                                                                                                                                                                                                                                                                                                                                                                                                     92 AA; 12429 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 367
                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                  protein deacetylase,
        AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA;
      27799 MW;
                                                                                                                                                                                                                                                                                                                                                                                     25.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               43685 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25.7%;
39.4%;
                                                                                                                                                                                                                              21,
21,
21,
                                                                                                                                                                                Methanopyri; Methanopyrales; Methanopyraceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20,
20,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           genomes
                                                                                                                                                                                                             Last sequence update)
Last annotation update)
tylase, SIR2 family.
                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                          ω,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 62; DB:
Pred. No. 7.4;
4; Mismatches
                                                                                                                                                                                                                                                                                                                              PWRPWRRR 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4;
                                                                                                                                                                                                                                                                                                                                                                                     Score 61;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and
                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                     188D883D05A7B09A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
    B051994FE5B24E05 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4654499CC185EC3B CRC64;
                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                s of th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              M., Ishikawa T., Yoshikawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              thirteen TT virus th genetic groups,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ssDNA viruses
                                                                                                                                                                                                                                                                         250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92
                                                                                                                                                                                                                                                                                                                                                                                               DB 12;
                                                                                                                                                                                                                                                                         AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12;
                                                                                                                                                                                                                                                                                                                                                                         2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 367;
                                                                                                                                                                                                                                                                                                                                                                                             Length 92;
                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           variants
                                                                                                                                                                                                                                                                                                                                                                         16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4;
                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                         ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2;
                        RESULT 13
Q8V7I1
                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
Q94CI8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AC DIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loc
Matches
  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                         Best
                                                                                                                                                                                                                                                                                           Q8V7I1
Q8V7I1;
01-MAR-2002
01-MAR-2002
                                                                                                                                                                               Okamoto H. Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q94C18;
Q94C18;
Q1-DEC-2001
01-DEC-2001
01-DEC-2001
                       Pfam; PF02956; SEQUENCE 734
                                                              classifiable into the fourth viremic infants.", Arch. Virol. 147:21-41(2002).
                                                                                                                                                                                                                                                                      ORF1
                                           EMBL; AB064598; BAB79322.1; InterPro; IPR004219; TTvirus_Unk.
                                                                                                 Okamoto H.;
"Analysis of the complete
                                                                                                                      MEDLINE=21844401; PubMed=11855633; Peng Y.H., Nishizawa T., Takahashi
                                                                                                                                                STRAIN=CT43F;
                                                                                                                                                                                                     STRAIN-CT43F;
                                                                                                                                                                                                              SEQUENCE FROM
                                                                                                                                                                                                                                               Viruses; ssDNA viruses;
                                                                                                                                                                                                                                                         TT virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Glycine-rich protein LeGRP1.
Lycopersicon esculentum (Tomato).
Eukaryota; Viridiplantae; Strepto
                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                     NCBI_TaxID=68887;
                                                                                                                                                                                                                                                                                01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "LGCRP1: A new member of glycine-rich proteins from tomato (Lycopersicon esculentum).";
Physiol Plantarum 0:0-0(2001).
EMBL: AY026037; AAK08984.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Asteridae; euasterids I; Solanales; Solanaceae; Solanum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=4081;
                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
mes 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60 KVWEWYLWRRRKIAEAEPNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                     5 WPWWPWRRKHEAEPEAEPIMILKKWPWWPWRR 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 KKWPWWPWRRKHEAEPEAEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                              (JUL-2001)
                                                                                                                                                                                                                                                                                (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 (TrEMBLrel. 19,
1 (TrEMBLrel. 19,
1 (TrEMBLrel. 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       284 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                       TT_ORF1;
AA; 8697
                                                                                                                                                                                                                N.A.
                      86978 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23434 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                      25.3%;
                                                                                                                                                                               ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25.3%;
50.0%;
  25.3%;
                                                                                       lete genomes of thirteen TT virus variants fourth and fifth genetic groups, isolated
                                                                                                                                                                                                                                                                                20,
20,
21,
                                                                                                                                                                             the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                               unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22
                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ν,
                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. 7.6;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
Pred.
 Score 61;
                                                                                                                                                                                                                                                                                                                                                                                 -WLWW-WER
                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 61;
Pred. No. 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                       F60E188BC0104A68 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E81A84C247CB9ED8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                      M., Ishikawa T., Yoshikawa A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No.
                                                                                                                                                                                                                                               ssDNA viruses
                                                                                                                                                                                                                                                                                                                            734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         284
                                                                                                                                                                                                                                                                                                                                                                                 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       σ
 DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                            A
 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                                                                                           4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .,
Length 734;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 250;
                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
```

18;

Gaps

2;

Best Local

P

```
Q98414
ID Q9841
AC Q9841
DT Q9841
DT Q1-FE
DT Q1-FE
DT Q1-FE
DT Q1-FE
DT Q1-FE
QVirus
OX Ovine
OX NCBI_
RN [1]
RN [1]
RC STRAI
RX WEDLI-
RA WEOCK
RA DEMAX
RT "Biol)
RT passa
RT J AC
RN [2]
RP SEQUE
RR [2]
RR SEQUE
RR CAILS
RA CALIS
RA CALIS
RA CALIS
RA ROBOWAN
RA CALIS
RA 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRESENTATION OF THE PROPERTY O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q98414
Q98414;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORF1.
TT virus.
STRAIN-85/34;
Carlson J.O., DeMartini J.C., Mwaengo D.M.;
"Envelope glycoprotein nucleotide sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-FEB-1997 (TrEMBLrel.
01-FEB-1997 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phylogenetic relatedness.";
Virology 277:368-378(2000).
EMBL; AB041957; BAB19308.1; -.
Interero; IRR004219; TTvirus_Unk.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ovine lentivirus.
Viruses; Retroid viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF02956; TT_ORF1; 1. SEQUENCE 735 AA; 86132 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-20534983; PubMed-11080484;
Okamoto H., Nishizawa T., Tawara A., Peng Y
Kishimoto J., Tanaka T., Miyakawa Y., Mayum
"Species-specific TT Viruses in humans and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9DUC9;
01-MAR-2001
                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                            passage in isogeneic
                                                                                                                                                                                                                                                                          MEDLINE-95135990; PubMed-7834396; Woodward T.M., Carlson J.O., de l DeMartini J.C.;
                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. STRAIN=85/34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=11663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Envelope glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (APR-2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Okamoto H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-PT-TTV6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Viruses; ssDNA viruses; unclassified ssDNA viruses NCBI_TaxID=68887;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9DUC9
                                                                                                                                                                                                            "Biological and genetic changes in passage in isogeneic twin lambs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 WPWRRRRWRWRRRR------PRWRRWRRRRTWRRR 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ഗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WWRYRRR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPW----WPWRRKHEAEPEAEPIMILKKWPWW----PWRRK 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 32.3%;
10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                     Immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                  Defic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16,
16,
21,
                                                                                                                                                                                  Syndr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Retroviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 61; DB:
Pred. No. 19;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ψ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PWRPWRRR 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 19; 3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9ED818D6BE6FA5D3 CRC64;
                                                                                                                                                                                     Hum.
                                                                                                                                                                                                                                                                                                          la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence update)
annotation update)
                                                                                                                                                                                                                                            ovine lentivirus strains following
                                                                                                                                                                                                                                                                                                       Concha-Bermejillo
                                                                                                                                                                               Retrovirol. 8:124-133(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peng Y., Takahashi M.,
, Mayumi M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    735
                                                   D.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lentivirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA
                         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nonhuman primates and their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2
                      genetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                       Α.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ψ
```

```
Search completed: December 11, Job time : 30 secs
                                                밁
                                                                       QΥ
                                                                                               В
                                                                                                                     Q
                                                                                                                                                                                                 RT DR DR DR DR CW SQ
                                                                                                                                                           Query Match
Best Local
                                                                                                                                                Matches
                                                                                                                                                                                                                    characterization of North American ovine lentiviruses.";
Submitted (JUL-1996) to the EMBL/GenBank/DDBJ databases.
EMBL; U64439; ARB08725.1; -.
InterPro; IPR000328; Env_GP41.
Pfam; PF00517; GP41; 1.
                                                                                                                                                                                                             Transmembrane.
                                                                                                                                                                                                 SEQUENCE
                                               223
                                                                                               163
                                                                       22
                                                                                                                                               Local Similarity
nes 18; Conserv
                                                                                                                        1
                                                VPYPFALLKCTKWCWYP
                                                                       ---PIMILK--KWPWWP 33
                                                                                               ILKRVYKQDWPWNTYHWPLWQMENMRQWMKENEREYKGRTNKTKEDIDDLLAGKIRGRFC
                                                                                                                        ILKK-----WPW----WP---
                                                                                                                                                                                                 985 AA;
                                                                                                                                                Conservative
                                                                                                                                                                                                 113794 MW;
                                                                                                                                                         25.3%;
           2002, 15:39:39
                                                                                                                                                7;
                                                                                                                                             Score 61; DB
Pred. No. 25;
7; Mismatches
                                                                                                                        -WRRKHEAEPEAE-
                                                                                                                                                                                               3197258EDBDE3597 CRC64;
                                                                                                                                                                      15;
                                                                                                                                                8,
                                                                                                                                                                    Length 985;
                                                                                                                                                Indels
                                                                                                                                                44;
                                                                                                                                               Gaps
                                                                                               222
                                                                                                                        21
```

5.

THIS PAGE BLANK (USPTO)

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ĕ
         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB
DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score
      seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-444-281-35-27-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  112892 seqs, 41476328 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ILKKWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   December 11, 2002, 15:34:48;
      SwissProt_40:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000000000
      2290

2290

55

942

942

947

1144

473

1173

1173

1173

1114

424

424

429

83

983

991

1162

1162

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1163

1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                  MMLA_STRCO
ATPB_NAAPL
ENV_CAEVG
ENV_OMVVS
YD55_APIME
SYC1_MYCTU
AP22_APIME
SYC1_MYCTU
SYC1_MYCTU
GYC1_MYCTU
OR12_CVH22
CORI_HUMAN
CO
ENV_VILVK
ENV_VILV2
VGL2_IBVD2
VGL2_IBVB
VGL2_IBVB
VGL2_IBVB
VGL2_IBVB
VGL2_IBVB
VGL2_IBVB
VGL2_IBVB
ANTABE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INDC_BOVIN
YMA3_BACST
POLG_EMCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; Search time 11 Seconds (without alignments) 139.511 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           112892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q11025 mycobacteri
p35581 apis mellif
p96862 mycobacteri
p57990 mycobacteri
p15423 human coron
Q9y5q5 homo si
Q9339 mus mui
P48628 91ycin
Q9xkz5 aythya
Q6485 human i
P37645 escher
P37645 visna
P35954 visna
P35954 visna
P35954 visna
P35954 avian
P11223 avian
P11223 avian
P11251 avian
P12651 avian
P12651 avian
P15651 bacter
Q9jy66 neisse
Q44241 anabae
P466312 arabida
P46312 arabida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q53902 streptomyce
P50655 anas platyr
P31627 caprine art
P16899 ovine lenti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6 bos taurus
3 bacillus st
4 encephalomy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 homo sapien
9 mus musculu
8 glycine max
5 aythya amer
5 human adeno
                                                                                                                    b human adeno
s escherichia
y visna lenti
visna lenti
visna lenti
visna lenti
a vian infec
avian infec
avian infec
avian infec
avian infec
avian infec
avian infec
savian infec
anabaena sp
brassica na
arabidopsis
visna lenti
      FT
```

DR DR DR DR DR DR DR DR FT FT FT FT	400000000000000000000000000000000000000	RP R	RESUI INDC. ID AC DT DT DT DT DE DE OC OC OC OC	
EMBL; PIR; PIR; PIR; Inter Pfam; PROSI PROSI PROSI PROSI PROSI PROPE PRO	J. B	SEQUE TISSUI MEDLII del Sa "cDNA Biocha [2] SEQUE TISSUI MEDLII Selsta Cullo "Indo	1 -	34 35 36 39 39 44 44 45
ESE PESSON PROPERTY P	FUNCT STAPH TISSU PTM: SIMIL: SIMIC SWIS Europ by by ties ties ties	SEQUENCE FROM N. SEQUENCE BORE MATTISSUE-Bone marr MEDLINE-9392368 del Sal G., Stor "CDNA cloning of Biochem. Biophys [2] SEQUENCE OF 131- TISSUE-Weutrophi MEDLINE-92165771 Selsted M.E., No Cullor J.S.; "Indolicidin, a neutrophils.";	BOVIN 6; 7-199 T-199 V-199 V-199 icidi aurus aurus; saurus; lia; Bae; B	51.5 51.5 51.5 51 51 51 51 51 50.5 50.5
67340; CAA4 1722; JC122 2387; A4238 0; IPRO0189 0; IPRO0186; Cat PD001838; ; PS00946; ; PS00947; tic; Amidat tic; Anidat 30 30 30	- E & E & E & E & E & E & E & E & E & E	7 1 1 7 S H H S H	(Re (Re (Re pre pre pre pre pre pre	21.4 21.2 21.2 21.2 21.2 21.2 21.2 21.2
Cat ici hel hel HEL HEL HEL HEL	NT AUCTON	PubMi P. he n Res. Res. ; pubM	NDARD; 27, Crea 27, Last 35, Last 35)) Chorda; Cetar:	1265 1265 1966 196 196 295 1 2295 1 2292 1 2293 1 469 1
n. 1: 1: 1: 1: 1: 1: 1: 1: 1: 1: 1: 1: 1:	(1992). CIDAL ACTIVITY, ACCIDAL ACTIVITY, ACCIDAL ACTIVITY ACCIDANCE OF NEUTING ESPONSIBLE FOR ITS ESPONSIBLE FOR ITS PRODUCT OF BIOINFAILED IN THE CATTRICAL THE CATTRICA	20337; neider C., Romeo D., phil bactericidal pep un. 187:467-472(1992) 37821; Morris W.L., Tang Y.	PRT; 144 AA. ated) t sequence update) t annotation update) t annotation vertebrat tiodactyla; Ruminantia;	MYO6_HUMAN MYO6_MOUSE YD43_MYCTU YA05_SCHPO YD40_ECO57 YDJQ_ECOLI MEND_ECOLI POLG_EMCVB POLG_EMCVB POLG_EMCVD YDJQ_SALTI YDJQ_SALTI YDJQ_SALTTI ALIGNMENTS
LIC ACID (BY	OPHILS. MATURATION. MILY. MATURATION. MILY. MATURATION. MATURATION. MILY. MATURATION. MILY. MATURATION. MATURATION	<pre>Zanetti M.; tide indolicidin."; -Q., Smith W., le amide from</pre>	Pecora; Bovoidea;	Q9um54 homo sapien Q64331 mus musculu Q11013 mycobacteri Q09677 schizosacch Q8xdz escherichia P76213 escherichia P17109 e menaquino P17593 encephalomy P17594 encephalomy P17594 encephalomy P17595 salmonella Q8zpu6 salmonella Q9lcx2 thermus the

```
POLG_EM
ID PO
AC PO
AC PO
DT 21
DT 15
DE GG
DE GG
DE (I
DE (I
DE (I
OC V)
                                                                                                                                                                                                                                                                                                                              RESULT
YMA3_B/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δã
                                                                                                                                                                                                                    Ъ
                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JLT 2

_BACST

YMA3_BACST

Q45633;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISULFID
DISULFID
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Liong E.C., Ferenci T.;

"Molecular cloning of a maltose transport gene from Bacillus stearothermophilus and its expression in Escherichia coli K-Mol. Gen. Genet. 243:343-352(1994).

-!- SIMILARITY: BELONGS TO THE UPF0097 FAMILY.
                                     p03304;
21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Genome polyprotein [Contains: Coat proteins VPI TO VP4; Core
P2A TO P2C, P3A; Genome-linked protein VPG; Picornain 3C
(EC 3.4.22.28) (Protease 3C) (P3C); RNA-directed RNA polymera
(EC 2.7.7.48)
                                                                                                                                                                  EMCV
                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Hypothetical 35.7 kDa protein in malA 3'region
                                                                                                                                                                                                                                                                                                                             Hypothetical protein SEQUENCE 314 AA;
                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacillus stearothermophilus
Bacteria; Firmicutes; Bacill
                                                                                                                                                    POLG_
                                                                                                                                                                                                                                                                                                                                                     Pfam; PF02834; 2_5_ligase;
               Viruses; ssRNA
                           Encephalomyocarditis virus
                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                    modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=94247374; PubMed=8190087;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-ATCC 7953;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=1422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 126 ELQSVILPWKWPWWPWRR 143
                                                                                                                                                                                                                     222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19 EAEPIMILKKWPWWPWRR 36
                                                                                                                                                                                                                                               N
                                                                                                                                                     EMCV
                                                                                                                                                                                                                     LKQWQWEQAKARWEAERDADGARREPGETWDFLLDKPSWWERLIGRWRR 270
                                                                                                                                                                                                                                             LKKWPWWPWRRKHEAEPEA----EP----IMILKKWPWWP-----WRR 36
                                                                                                                                                                                                                                                                                                                                                                   I13418; AAA71981.1; -.
Pro; IPR004175; 2_5_ligase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity 55.0
                                                                                                                                                                                                                                                                         l Similarity 34.7
17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          144 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  85
107
               positive-strand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                              35735 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  32.4%;
                                                                                                                                                                                                                                                                                    25.7%;
34.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillales; Geobacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MW;
                                                                                                                                                                                                                                                                         5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIMILARITY).
BY SIMILARITY.
BY SIMILARITY.
ANIDATION (G-144 PROVIDE AMIDE GROUP).
; E3B1CBBE55C09911 CRC64;
                                                                                                                                                                                                                                                                        Score 62; DB 1 Pred. No. 0.99; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 78; DB 1; Pred. No. 0.0049;
                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                              B54E25FD3F72BFC4 CRC64;
             viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                     2290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in Escherichia coli K-12.";
               no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA
                                                                                                                                                     A
               DNA
                                                                                                                                                                                                                                                                                                  1; Length 314;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Usage by
                                                                                                                                                                                                                                                                         13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4;
               stage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (ORF3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                         Indels
                                                       polymerase
                                                                                                                                                                                                                                                                                                                                                                                                                                                               restrictions
                Picornaviridae,
                                                                                                                                                                                                                                                                                                                                                                                                                                      and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a collaboration
                                                                                                                                                                                                                                                                           14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                      for commercia.
                                                                                  proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                    in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                    no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                           ω
```

RESULT 4
MMLA_STRCO
ID MMLA_S
AC Q53902
DT 30-MAY

MMLA_STRCO STANDARD; Q53902; 30-MAY-2000 (Rel. 39, Created)

PRT;

711 AA

```
밁
                    δÃ
                                                          Query Match
Best Local
                                                Matches
                                                                                               CHAIN
LIPID
ACT_SITE
ACT_SITE
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The nucleotide and deduced amino acid sequences of the encephalomyocarditis viral polyprotein coding region.";
Nucleic Acids Res. 12:2969-2985(1984).
Nucleic Acids Res. 12:2969-2985(1984).
-i- FUNCTION: P3C POLYPEPTIDE IS A PROTEASE THAT CLEAVES AT CERT O/G SITES IN THE POLYPROTEIN. IT MAY BE A CYSTEINE PROTEASE.
-i- CARLYTIC ACTIVITY: Selective cleavage of Gin-1-Gly bond in colleging the second college.
                                                                                                                                                            CHAIN
CHAIN
                                                                                                                                                                                                 CHAIN
CHAIN
CHAIN
CHAIN
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=84169586; PubMed=6324136; Palmenberg A.C., Kirby E.M., Janda M.R., Drake N.L., Duke G.M.,
                                                                                                                                                                                                                                                                                                 Polyprotein;
RNA-directed
                                                                                                                                                                                                                                                                                                                           Pfam; PF00910; RNA_helicase;
                                                                                                                                                                                                                                                                                                                                     Pfam; PF00680; RNA_dep_RNA_pol; 1.
                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000605; RNA_helicase.
InterPro; IPR001205; RNA_pol_P3D.
InterPro; IPR001676; Rhv.
Pfam; PF00073; rhv; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X00463; CAA25152.1; -. PIR; A03906; GNNYE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -!- PTM: SPECIFIC ENZYMATIC CLEAVAGES IN VIVO YIELD MATURE PROTEINS -!- SIMILARITY: THE PROTEASE BELONGS TO PEPTIDASE FAMILY C3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Potratz K.F.,
                                                                                                                                                                                                                                                                                       PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                 HSSP; P12296;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=12104;
967
                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EACH OF WHICH IS COMPOSED OF ONE COPY VP3, AND VP4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         poliovirus polyprotein. In other picornavirus reactions Glu masubstituted for Gln, and Ser or Thr for Gly.
CATALYTIC ACTIVITY: N nucleoside triphosphate = N diphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   {RNA}(N).
SUBUNIT: THE VIRUS
                      PWWPWRRKHEAEPEAEPI---
PWNPWKNTYQAVLRAEPCRVTMDIYYKRVRPFRLPLVQKEWP 1008
                                                                                                                                                                                                                                                                                                  irected
                                                l Similarity
11; Conser
                                                                                                                                                                                                                                                                                                                                                                                                     C03.009
                                                                                                                                                 137
392
623
911
1057
1193
1518
1606
1626
                                                Conservative
                                                                                                                                                                                                                                                                                                 Coat
RNA F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Collett M.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                  2MEV.
                                                                                               AΑ;
                                                                                                                                                                                                                                                                                                   po⊥ymerase;
                                                                                                                                                                                                 622
910
1056
1192
1517
                                                                                                                                                                                                                                                                                                            protein; Core protein;
                                                                                                             1802
                                                                                                                                     1605
1625
1830
2290
68
                                                                                                                                                                                                                                                             67
136
391
                                                          24.7%;
                                                                                                  255756
                                                                                                MW:
                                                Score 59.5; D
Pred. No. 14;
6; Mismatches
                                                                                                                                                                                                  CORE
                                                                                                                                                                                                                                      COAT
                                                                                                            PROTEASE (POTENTIAL).
PROTEASE (POTENTIAL).
                                                                                                                                    GENOME-LINKED PROTEIN VPG (H).
PICORNAIN 3C (P22).
RNA-DIRECTED RNA POLYMERASE P3D
MYRISTATE (BY SIMILARITY).
                                                                                                                                                                                                                           CORE
                                                                                                                                                                                                                                                 COAT PROTEIN VP4 (RHO).
COAT PROTEIN VP2 (BETA).
COAT PROTEIN VP3 (GAMMA).
                                                                                                                                                                                                                                                                                                  Hydrolase; Thiol protease;
                                                                                                                                                                                                                                                                                         EADER PEPTIDE
                                                                                                  26BC81BB7CF68CB5 CRC64;
                                                                                                                                                                                     PROTEIN P2C
PROTEIN P3A.
                                                                                                                                                                                                                          PROTEIN P2A
                                                                                                                                                                                                                                    PROTEIN VP1
                                                                                                                                                                                                               PROTEIN P2B
                        ----MILKKWP
                                                                                                                                                                                                                                                                                                               Transferase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OF 60 ICOSAHEDRAL UNITS, EACH OF PROTEINS VP1, VP2,
                                                                       DB 1;
                                                                                                                                                                                                 (F).
                                                                                                                                                                                                                           (G) .
                                                 8;
                                                                                                                                                                                                                                       (ALPHA).
                        30
                                                                      Length 2290;
                                                 Indels
                                                                                                                                                                                                                                                                                                   Myristate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AT CERTAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a collaboration -
                                                   17;
                                                                                                                                                  \Xi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    may
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      þe
                                                   1;
```

30-MAY-2000 (Rel. 39, Last sequence up 15-JUN-2002 (Rel. 41, Last annotation

sequence update)

update)

ACTII-3 OR SCO5084 OR Putative membrane

protein actII-3. OR SCBAC28G1.10.

Actinomycetales; NCBI_TaxID=1902;

```
밁
                    Qy
                                             Query Ma
Best Loc
Matches
                                                                                                                                                                                               Hypothetical TRANSMEM I TRANSMEM I TRANSMEM I TRANSMEM I TRANSMEM 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [1]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDIINE-91347376; PubMed-1878971;
Fernandez-Moreno M.A., Caballero J.L., Hopwood D.A., Malpartida F
The act cluster contains regulatory and antibiotic export genes,
The act cluster contains regulatory and antibiotic export genes of the contains regulatory and antibiotic export genes.
                                                                                           TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bentley S.D., Châter K.F., Cerdeno-Tarraga A.-M., Challis G.L., Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H., Harper D., Bateman A., Brown S., Chandra G., Chen C.W., Collins M., Cronin A., Fraser A., Goble A., Hidalgo J., Hornsby T., Howarth S., Huang C.-H., Kieser T., Larke L., Murphy L., Oliver K., O'Neil S., Rabbinowitsch E., Rajandram M.A., Rutherford K., Ruther S., Seeger K., Saunders D., Sharp S., Squares R., Squares S., Taylor K Warren T., Wietzorrek A., Woodward J., Barrell B.G., Parkhill J.,
                                                                                                                                                                                                                                                                                                                               EMBL; M64683; AAA26691.1; -. EMBL; AL593842; CAC44197.1; -.
                                                                                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See
                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Complete genome sequence of the coelicolor A3(2).";
Nature 417:141-147(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=A3(2) / M145;
MEDLINE=21996410; PubMed=12000953;
                                                                                                                                                                                                                                                           PROSITE;
                                                                                                                                                                                                                                                                    TIGRFAMs;
                                                                                                                                                                                                                                                                                                                                                                   or send an
                                                                                                                                                                                                                                                                                                                                                                                                                                                           -i- SUBCELLULAR LOCATION: Integral membrane protein
-i- SIMILARITY: BELONGS TO THE MMPL FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hopwood D.A.
  332
                                                         Local
                        _
                                                                    Match
                      ILKKWPWWPWRRKHEAEPE
  IFGRWVFWPARPKHGTEPD
                                                                                                                                                                                                                                                                                 PF03176; MMPL;
                                             9; Conserv
                                                                                                                                                                                                                                                           PS50156;
                                                                                                                                                                                                                                                                                            IPR004707; ActII.
IPR000731; HMGCR/patch_5TM
IPR004869; MMPL.
                                                                                                                                                                                                                                                                      TIGR00833; actII;
                                                                                                                                                                                                                                                                                                                                                                 email to license@isb-sib.ch).
                                                                                           14
175
199
235
281
313
369
516
540
573
623
                                                                                                                                                                                                                                              protein;
                                              Conservative
                                                                                      34
195
219
255
301
301
333
389
536
560
593
665
74862
                                                                                           ĀΑ;
                                                         23.78;
                                                                                                                                                                                                                                  Transmembrane; Co
4 POTENTIAL.
 350
                       19
                                                                                             WW;
                                              ω
                                             Score 57; DB Pred. No. 9.1; 3; Mismatches
                                                                                                     POTENTIAL
                                                                                          A5466BEDABEED1B6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           model
                                                                                                                                                                                                                                              Complete
                                                                                                                                                                                                                                                                                                                                                                            noved. Usage by and for commercial
(See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        actinomycete
                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                    as its content
                                                                    1;
                                                                                                                                                                                                                                                                                                                                                                                         Usage
                                                                                                                                                                                                                                              proteome.
                                             7;
                                                                   Length 711;
                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Streptomyces
                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Taylor K.
                                                                                                                                                                                                                                                                                                                                                                                         for
                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                    in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        '<del>'</del>
                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                    ő
                                                                                                                                                                                                                                                                                                                                                                                                    way
                               . 0
```

```
RESULT 5
  밁
                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                 ENV_CAEVG
                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                  01-JUL-1993
16-OCT-2001
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            genome.";
J. Mol. Evol.
-!- FUNCTION:
                                                                                                                                                                      ENV_CAEVG
P31627;
                                                                                                                                                                                                                                                                                                                                                             Hydrogen
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Ew the European Bioinformatics Institute. There are no restuuse by non-profit institutions as long as its content use by non-profit institutions are nowed. Usage by an
                                                                                                  protein;
ENV.
                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and for entitles requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-Pekin breed; TISSUE-Liver; MEDLINE-94047124; PubMed-8230253; Ramirez V., Savoie P., Morais R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-1996 (Rel. 34, Last sequence up 15-JUN-2002 (Rel. 41, Last annotation ATP synthase protein 8 (EC 3.6.3.14)
SEQUENCE FROM N.A., AND SEQUENCE OF 81-95 MEDLINE=92015464; PubMed=165606; Knowles D.P. Jr., Cheevers W.P., McGuire THARWOOD W.G., Stem T.A.;
                                                            Viruses; Retroid viruses; NCBI_TaxID=11662;
                                                                                                                          Env
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -!- FUNCTION: THIS IS ONE OF THE CHAINS OF THE NONENZYMATIC COMPONENT (CF(0) SUBUNIT) OF THE MITOCHONDRIAL ATPASE COMPLEX.
-!- CATALYTIC ACTIVITY: ATP + H(2)O + H(+)(In) = ADP + phosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Anas platyrhynchos (Domestic Mitochondrion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MTATP8 OR ATP8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P50655;
01-OCT-1996
                                                                        Caprine arthritis
Viruses; Retroid v
                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                    Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                            EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Molecular characterization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Archosauria; Aves; Neognathae; Anseriformes; Anatidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATP8_ANAPL
                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                              6
                                                                                                                                                                                                                                                 37
                                                                                                                                                                                                                                                                       18
                                                                                                          JUL-1993 (Rel. 26, Created)
OCT-2001 (Rel. 40, Last sequence up
OCT-2001 (Rel. 40, Last annotation
polyprotein precursor (Coat polypr
tein; Transmembrane protein].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUBCELLULAR LOCATION: Membrane-bound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         H(+)(Out)
                                                                                                                                                                                                                                                                     PEAEPIMILKKWPW-WPW
                                                                                                                                                                                                                                                PSKKPSLITKPTPWAWPW
                                                                                                                                                                                                                                                                                                                                                                                              L22476; AAA72037.1; -. Pro; IPR001421; ATPase8_mit.
                                                                                                                                                                                                                                                                                                                                                                                    PF00895; ATP-synt_8;
                                                                                                                                                                                                                                                                                             . Similarity
9; Conserv
                                                                                                                                                                                                                                                                                                                                                                       ion transport;
                                                                                                                                                                                                                                                                                                                                                 55
                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        37:296-310(1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BELONGS TO THE ATPASE PROTEIN 8
                                                                        encephalitis virus (s
viruses; Retroviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   34, Created)
                                                                                                                                                                                                                                                                                                                                                 6334 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chordata;
                                                                                                                                                                                                                                                                                                           23.0%;
                                                                                                                                                                                                                                                                                                                                                            CF(0); Mitochondrion;
POTENTIAL.
                                                                                                                                                                                                                                                54
                                                                                                                                                                                                                                                                       34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               is R.;
and evolution of a duck mitochondrial
                                                                                                                                                                                                                                                                                              2
                                                                                                                                                                                                                                                                                                           Score 55.5;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         duck).
                                                                                                                                                                                                                                                                                                                                               41284ABAB1525B99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                    PRT;
                                                                                                                    jence update)
tation update)
polyprotein) |
                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          update)
                                                                                    (strain G63) (CAEV)
                                                                                                                                                                                    942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (ATPase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vertebrata;
                                                                          Lentivirus
              н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                    ₿
                                                                                                                                                                                                                                                                                                                         DВ
              .c.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   subunit
                                                                                                                                                                                                                                                                                                                      <u>.</u>
                                                                                                                        [Contains:
                                                                                                                                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                      Transmembrane.
                                                                                                                                                                                                                                                                                               9
              Brassfield
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FAMILY.
                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8) (A6L)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               restrictions on 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Anas.
                                                                                                                                                                                                                                                                                                                         55,
                                                                                                                         Surface
              A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                            for
                                                                                                                                                                                                                                                                                              <u>;</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                        commercial
                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                              1;
```

```
ENV_OMVVS
ID ENV_OMVVS
AC P16899;
'DT 01-AUG-1990
DT 01-AUG-1990
                                                                                                         B
                                                                                                                                δÃ
                                                                                                                                                         В
                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                               CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antigenic
J. Virol.
[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REVISIONS.
Knowles D.P.;
Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Glycoprotein; PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00517;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; M60855; AAB88709.2; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (So or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on if
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Structure and genetic variability of envelope glycoproteins of two antigenic variants of caprine arthritis-encephalitis lentivirus.";
J. Virol. 65:5744-5750(1991).
                                                                                                         203
                                                                                                                                                           143
                                                                                                                                 26
                                                                                                                                                                                    ω
                                                                                                       LKCTKWCWYP 212
                                                                                                                                LK -- KWPWWP 33
                                                                                                                                                         ENWPWNTYHWPLWQMENVRYWLKENIAENKKRKNSTKKGIEELLAGTIRGRFCVPYPFAL 202
                                                                                                                                                                                   KKWPW----WP-----WRRKHEAEPEAE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A41307;
                                                                                                                                                                                                             l Similarity
15; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                non-profit institutions as long and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1PR000328; Env_GP41.
 (Rel.
                                                                                                                                                                                                                                                             942
                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Coat
                                                                                                                                                                                                                                                             AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GP41;
                                        STANDARD;
 15,
15,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein;
                                                                                                                                                                                                                      23.0%;
                                                                                                                                                                                                                                                             108437
              Created)
Last sequence update)
                                                                                                                                                                                                                                                             MW;
                                                                                                                                                                                                          Score 55.5; I
Pred. No. 18;
7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Polyprotein; Transmembrane LEADER PEPTIDE.
                                                                                                                                                                                                                                                                                                              N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                         N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                   N-LINKED
N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                       N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                           N-LINKED
N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
CYTOPLASMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SURFACE PROTEIN (POTENTIAL).
TRANSMEMBRANE PROTEIN (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EXTRACELLULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EXTRACELLULAR (POTENTIAL).
                                        PRT;
                                                                                                                                                                                                                                                            INKED (GLCNAC. . 5B0E1F0F3D355F4A
                                        990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                         (GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
                                                                                                                                                                                                                                                                                    (GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                  (GLCNAC
                                                                                                                                                                                                                                                                                                                                                                             (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            There are no restrictions in as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (POTENTIAL).
                                                                                                                                                                                                                                   DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Usage
                                                                                                                                                                                                          9;
                                                                                                                                                                                                                                  Length 942;
                                                                                                                                                                                                                                                             CRC64;
                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                (POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                       (POTENTIAL). (POTENTIAL). (POTENTIAL).
                                                                                                                                                                                                                                                                                     (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                            (POTENTIAL)
                                                                                                                                                                                                                                                                        (POTENTIAL)
                                                                                                                                                                                                                                                                                                                          (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                              (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and for
                                                                                                                                                                                                           39;
                                                                                                                                                                                   -PIMI 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         collaboration -
                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               no
                                                                                                                                                                                                          4;
                      Qy
                                                                          QΥ
 Д
                                                   В
                                                                                                                                                        STEPPET TO THE TEPPET TO THE T
```

```
Query Match
Best Local
                                            Matches
                                                                                                                                                       CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                        CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                            CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                  CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This
                                                                                                                          CARBOHYD
                                                                                                                                   CARBOHYD
                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                                                                                             CARBOHYD
                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                   CARBOHYD
                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000328; Env_GP41.
Pfam; PF00517; GP41; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; M34193; AAA46783.1; -. EMBL; M31646; AAA66817.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lentivirus: phylogenetic hi
Virology 175:434-447(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ovine lentivirus
Viruses; Retroid
                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Querat G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. MEDLINE=90223989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=11664;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JUN-1994 (Rel. 29, Last annotation update)
ENV polyprotein precursor (Coat polyprotein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nucleotide sequence analysis of hucleotide have a hucleotide sequence history
174
                      ω
QEWPWNTYHWPLWQMENMRQWMKENEKEYTSRNNKTKEDIDALLAGKIRGRFCVPYPFAL 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G46335; G46335.
M34193; ENV$OMVVSACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G46335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                      KKWPW---
                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            non-profit
                                                                                                                                                                                                                                     480
490
                                                                                                                                                                                                                                                           141
162
207
259
259
299
299
363
386
402
4134
434
434
434
434
438
                                            Conservative
                      - WP - -
                                                                                 10 480

490

590

514

526

536

542

550

560

560

571

773

773

774

714498
                                                                                       AΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (strain s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PubMed=2158181;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           institutions as long
                                                      23.0%;
                      WRRKHEAEPEAE - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SA-OMVV)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Retroviridae; Lentivirus
                                                                                        MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Polyprotein; Transmembrane LEADER PEPTIDE.
                                                                                                 N-LINKED
                                                                                                                                                                                                                                                N-LINKED
                                                                                                                                                                                                                                                                                            N-LINKED
                                                                                                                                                                                                                                                                                                                                                  N-LINKED
                                                      Score 55.5;
Pred. No. 1
                                                                                                                                                                                                                N-LINKED
                                                                                                                                                                                                                         N-LINKED
                                                                                                                                                                                                                                                                                                                             N-LINKED
                                                                                                                                                                                                                                                                                                                                                                          N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEMBRANE
                                                                                                                                                                                                                                      N-LINKED
                                                                                                                                                                                                                                                                      N-LINKED
                                                                                                                                                                                                                                                                                  N-LINKED
                                                                                                                                                                                                                                                                                                                   N-LINKED
                                                                                                                                                                                                                                                                                                                                         N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                  N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                EXTERIOR MEMBRANE GLYCOPROTEIN.
                                                                                        279B816BE55614F3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vigne R.;
SA-OMVV, a visn.
of lentiviruses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vigne
                                                                                                                                                                                                                                                                                                                (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                  (GLCNAC.
                                                                                                                        (GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
                                                                                                                                                                                                                                                                      (GLCNAC.
                                                                                                                                                                                                                                                                                            (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                  (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                         (GLCNAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (See http://www.isb-sib.ch/announce,
                                                                                                             (GLCNAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a visna-related
                                                                 DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            as its content
                                                                                                                                                                                                                                                                                                                                                                                                                      GLYCOPROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Usage
                                           8
                                                                                        CRC64;
                                                                Length
                                            Indels
                                                                                                                        (POTENTIAL)
(POTENTIAL)
                                                                                                                                                       (POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                           (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                               (POTENTIAL)
                                                                                                                                                                                                                                                (POTENTIAL)
                                                                                                                                                                                                                                                                                            (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                         (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                (POTENTIAL)
                                                                                                    (POTENTIAL)
                                                                                                                                                                                                                                     (POTENTIAL)
                                                                                                                                                                                                                                                                      (POTENTIAL)
                                                                                                                                                                                                                                                                                  (POTENTIAL)
                                                                                                                                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                         (POTENTIAL)
                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             is
for
                                           39;
                      PIMI 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in
                                          Gaps
```

26

LK - - KWPWWP

ယ

4;

LKCEEWCWYP

```
RESULT

ID 55_MT

ID 56_MT

ID 56_MT
  RESULT 9
AP22_APIME
ID AP22_A|
AC P35581
DT 01-OCT
                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                           Query
Best 1
                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q11025;
01-OCT-1996
01-OCT-1996
15-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _MYCTU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-98295987; PubMed-9634230;
Cole S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris Cole S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris Gordon S.V., Eiglmeier K., Gas S., Barry C.E. III, Tekaia F., Gordon S.V., Eaglameier K., Gas S., Barry C.E. III, Tekaia F., Badcock K., Basham D., Brown D., Chillingworth T., Connor R., Davies R., Devlin K., Feltwell T., Gentles S., Hamlin N., Holroyd Hornsby T., Jagels K., Krogh A., McLean J., Moule S., Murphy L., Oliver S., Osborne J., Quail M.A., Rajandream M.A., Rogers J., Rutter S., Seeger K., Skelton S., Squares S., Squares R., Sulston J.E., Taylor K., Whitehead S., Barrell B.G.; "Deciphering the biology of Mycobacterium tuberculosis from the complete genome sequence.";
Nature 393:537-544(1998).
AP22_APIME STANDARD;
P35581; P11525; P11526;
O1-OCT-1989 (Rel. 12, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL;
EMBL;
TIGR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.

STRAIN-CDC 1551 / Oshkosh;

Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O.,

Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., Hickey E.,

Peterson J., DeBoy R., Dodson R., Gwinn M.L., Haft D., Hickey E.,

Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzberg

Kolonay J.F., Nelson W.C., Weldman J., Khouri H., Gill J., Mikula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence up
15-JUN-2002 (Rel. 41, Last annotation
Hypothetical protein Rv1355c.
RV1355C OR MT1398 OR MTCY02B10.19C.
                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000594; Thir_domai pfam; PF00899; Thir; 1. Hypothetical protein; Complete SEQUENCE 715 AA; 78181 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TubercuList; Rv1355c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bishai W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Actinomycetales; Corynebacterineae; NCBI_TaxID=1773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacteria; Actinobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mycobacterium tuberculosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YD55_MYCTU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     laboratory strains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Whole genome comparison
                                                                                                                                                                                                                                                                    18
                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                            PEAEPIMI -- LKKWPWWPWRR
                                                                                                                                                                                                           POPDPDLLEEAKRWAYYPWRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Z75555; CAA99988.1; -. AE007012; AAK45661.1; MT1398; -.
                                                                                                                                                                                                                                                                                                                          Similarity
8; Conser
                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                     22.8%; 38.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Thir_domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Actinobacteria (class); Actinobacteridae; cterineae; Mycobacteriaceae; Mycobacterium
                                                                                                                                                                                                                                                                 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALT_INIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mycobacterium tuberculosis clinical and
                                                                                                                                                                                                                                                                                                                                                     Score 55;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                  proteome.
455495248A56041C CRC64;
                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                              144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 715
                                                                                                                                                                                                                                                                                                                                                     рв
16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A
                                                                                                                                                                                                                                                                                                                                                                             1;
                                                                                                                                                                                                                                                                                                                          4;
                                                                                                                                                                                                                                                                                                                                                                             Length 715;
                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Harris
                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S.L
A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ď.,
                                                                                                                                                                                                                                                                                                                    1,
```

```
SYC1_MYCTU
ID SYC1_M
AC P96862
AC P96862
DT 15-JUL
DT 15-JUL
DT 16-OCT
DE CYSTES
GN CYSS1
OS Mycoba
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STITITION OF THE TEST OF THE T
                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                    ΩÃ
                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                          15-JUL-1998
15-JUL-1998
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PEPTIDE PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PEPTIDE
PROPEP
PEPTIDE
PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
Cysteinyl-tRNA synthetase 1 (CysRS 1).
CYSS1 OR CYSS OR RV3580C OR Mycobacterium tuberculosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Casteels P., Ampe C., Jacobs F., Vaeck M., Tempst P.;
"Apidaecins: antibacterial peptides from honeybees.";
EMBO J. 8:2387-2391(1989).
-i- FUNCTION: APIDAECINS HAVE BACTERICIDAL ACTIVITY; PREDOMINANTLY
AGAINST GRAM-NEGATIVE BACTERIA. THEY SEEM TO INTERFERE WITH CEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Apidaecin precursor, type 22.
Apis mellifera (Honeybee)
Eukaryota; Metazoa; Arthropoda; Mandibulata;
Insecta; Pterygota; Neoptera; Endopterygota;
Acculeata; Apoidea; Apidae; Apis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PIR; S05383; S05383.
PIR; S06675; S06675.
PIR; S35331; S35331.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=90005446; PubMed=2676519; Casteels P., Ampe C., Jacobs F., Vaeck M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=93223697; PubMed=8467807; Casteels P., Tempst P.; Casteels-Josson K., Capaci T., Casteels P., Tempst P.; "Apidaecin multipeptide precursor structure: a putative amplification of the insect antibacterial response.";
                                                                                                                                                                   P96862;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE (APIDAECINS IA/IB).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBO J. 12:1569-1578(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JUN-1994 (Rel. 29, Last sequence up 01-JUN-1994 (Rel. 29, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Hemolymph;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR004828; Apidaecin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Insect immunity;
                                                                                                                                                                                                                                                                                                           26
                                                                                                                                                                                                                                                                                                                                                         6 PWWPWRRKHEAEPEAEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROPAGATION.
                                                                                                                                                                                           MYCTU
                                                                                                                                                                                                                                                                                                           PTRPTRLRREAEPEAEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PF00807; Apidaecin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     X72576; CAA51168.1;
                                                                                                                                                                                                                                                                                                                                                                                                     l Similarity
11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    on
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127
144 AA;
                                                            (Rel. 36, Created)
(Rel. 36, Last sequence update)
(Rel. 40, Last annotation update)
RNA synthetase I (EC 6.1.1.16) (Cy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             35
43
63
71
91
99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pair of basic
                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pidaecin; 4.
Antibiotic; Hemolymph; Signal; Multigene family;
of basic residues; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19
42
60
70
88
98
116
126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16539
                                                                                                                                                                                                                                                                                                                                                                                                                           22.4%;
                                                                                                                                                                                                                                                                                                           42
                                                                                                                                                                                                                                                                                                                                                         22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MW;
                                                                                                                                                                                                                                                                                                                                                                                                Score 54; DB:
Pred. No. 4.4;
1; Mismatches
                          MT3686
                                                                                                                                                                                                                                                                                                                                                                                                     1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APIDAECIN IA.
: 6FA1AD74CB77108D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APIDAECIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APIDAECIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL
                                                                                                                                                                                         PRT;
                          0R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              on update)
                                                                                                                                                                                           469
                                                                    (Cysteine--tRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pancrustacea; Hexapoda;
Hymenoptera; Apocrita;
                                                                                                                                                                                                                                                                                                                                                                                                     ű,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mechanism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WITH CELL
                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                   0;
```

```
Qy
망
                                                                            Query Match
Best Local
                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Colle S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris D. Gordon S.V., Eiglmeler K., Gas S., Barry C.E. III, Tekaia F., Badcock K., Basham D., Brown D., Chillingworth T., Connor R., Davies R., Devlin K., Feltwell T., Gentles S., Hamlin N., Holroyd S., Horrisby T., Jagels K., Krogh A., McLean J., Moule S., Murphy L., Oliver S., Osborne J., Quail M.A., Rajandream M.A., Rogers J., Rutter S., Seeger K., Skelton S., Squares S., Squares R., Sulston J.E., Taylor K., Whitehead S., Barrell B.G.; "Deciphering the biology of Mycobacterium tuberculosis from the complete genome sequence."; Nature 393:537-544(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nature
[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commodified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        laboratory strains.";
Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases
-!- CATALYTIC ACTIVITY: ATP + L-cysteine + tRNA(Cys) = /
diphosphate + L-cysteinyl-tRNA(Cys).
-!- SUBUNIT: MONOMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., Whi
Peterson J., DeBoy R., Dodson R., Gwinn M.L., Haft D., Hic
Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Sa
Delcher A., Utterback T., Weidman J., Khouri H., Gill J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=98295987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Actinomycetales; NCBI_TaxID=1773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacteria; Actinobacteria; Actinobacteria (class); Actinobacteridae; Actinomycetales; Corynebacterineae; Mycobacteriaceae; Mycobacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. STRAIN=CDC 1551 /
                                                                                                                                           BINDING
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bishai W.;
                                                                                                                                                                                                                                                                                                                                                                                                                entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Whole genome comparison of Mycobacterium tuberculosis clinical and
                                                                                                                            SEQUENCE
                                                                                                                                                                                                          Complete
                                                                                                                                                                                                                         Aminoacyl-tRNA synthetase;
                                                                                                                                                                                                                                                          TIGRFAMs;
                                                                                                                                                                                                                                                                         InterPro; IPR002308; Cys_tRNA-synt_la.
InterPro; IPR001412; tRNA-synt_I.
Pfam: PF01406; tRNA-synt_le; 1.
PRINTS; PR00983; TRNASYNTHCYS.
                                                                                                                                                                                                                                                                                                                                        TubercuList; Rv3580c;
                                                                                                                                                                                                                                                                                                                                                                                    EMBL;
 89
                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBCELLULAR LOCATION: Cytoplasmic.
SIMILARITY: BELONGS TO CLASS-I AMINOACYL-TRNA SYNTHETASE FAMILY
STRONG, TO METHIONYL-TRNA SYNTHETASE.
                                 PWWPWRRKHE - -
                                                                                                                                                                                                                                                                                                                                                                     Z92774; CAB07154.1; -. AE007169; AAK48044.1; -.
 PWWEWAATHERAFTAAYDALDVLPPSAEP
                                                                                                                                                                                                                                                                                                                                                     MT3686;
                                                              l Similarity
10; Conser
                                                                                                                                                                                                                                         PS00178; AA_TRNA_LIGASE_I; FALSE_NEG
                                                                                                                                                                                                        proteome
                                                                                                                                                                                                                                                          TIGR00435; cyss; 1
                                                                                                                        35
267
270
457
469
                                                              Conservative
                                                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oshkosh;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=9634230;
                                                                                                                                            45
271
270
270
457
                                                                                                                             51854
                                                                             22.4%;
34.5%;
                                                                                                                             WW;
                                  -AEPEAEP
                                                                                                                                                                                                                          Protein
                                                                0
                                                                               Score 54;
Pred. No.
                                                                                                                                           "KMSKS" REGION.
ATP (BY SIMILARITY).
D -> E (IN REF. 2).
                                                                                                                                                                                            "HIGH" REGION
                                                                                                                               515F9D19482ADC0E CRC64;
                                                                  Mismatches
                                  22
                                                                                                                                                                                                                          biosynthesis; Ligase; ATP-binding;
                                                                             DB
14;
                                                                                                Length 469;
                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hickey E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        White
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        alzberg S.L.,
Mikula A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a collaboration
                                                                   12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     outstation
                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                        commercia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       n 0n
                                                                   ۲
```

RESULT 11 SYC1_MYCLE

Last sequence update)
Last annotation updat

```
RESULT 12
VGL2_CVH22
ID VGL2_C
AC P15423
DT 01-APR
DT 01-APR
DT 15-JUL
                                                                                                                                         DЬ
                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-21128732; PubMed-11234002;

GOLE S.T., Eiglmeier K., Parkhill J., James K.D., Thomson N.R.,

COLE S.T., Eiglmeier K., Parkhill J., James K.D., Thomson N.R.,

Wheeler P.R., Honore N., Garnier T., Churcher C., Harris D.,

Wholeler P.R., Basham D., Brown D., Chillingworth T., Connor R.,

Mungall K., Basham D., Brown D., Chillingworth T., Fraser A., Hamlin N.

Davies R.M., Devlin K., Duthoy S., Feltwell T., Fraser A., Hamlin N.

Holroyd S., Hornsby T., Jagels K., Lacroix C., Maclean J., Moule S.,

Murphy L., Oliver K., Quail M.A., Rajandream M.A., Rutherford K.M.,

Murphy L., Oliver K., Simon S., Simmonds M., Skelton J., Squares R.,

Rutter S., Seeger K., Simon S., Simmonds M., Skelton J., Squares R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Actinomycetales; Corynebacterineae; Mycobacteriaceae; NCBI_TaxID=1769;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              p57990;
16-00T-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence up
16-0CT-2001 (Rel. 40, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Massive gene decay in the leprosy bacillus.";
Nature 409:1007-1011(2001).
-:- CATALYTIC ACTIVITY: ATP + L-cysteine + tRN.
diphosphate + L-cysteinyl-tRNA(Cys).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Squares S., S
Barrell B.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (CysRS 1).
CYSS1 OR CYSS OR ML0323.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cysteinyl-tRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYC1_MYCLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (CysRS
VGL2_CVH22 STANDARD;
p15423;
01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last seq
15-JUL-1999 (Rel. 38, Last ann
                                                                                                                                                                                                                                                                               BINDING
                                                                                                                                                                                                                                                                                                 SITE
                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR002308; Cys_tRNA-synt_1a.
InterPro; IPR001412; tRNA-synt_I.
Pfam; PF01406; tRNA-synt_1e; 1.
PRINTS; PR00983; TRNASYNTHCYS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AL583918; CAC29831.1; -.
                                                                                                                                                                                                                                                                                                                              Complete
                                                                                                                                                                                                                                                                                                                                              Aminoacyl-tRNA synthetase;
                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00178; AA_TRNA_LIGASE_I;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Leproma; ML0323;
                                                                                                                                         9
                                                                                                                                                                       6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBUNIT: MONOMER (BY SIMILARITY).
SUBCELLULAR LOCATION: Cytoplasmic.
SIMILARITY: BELONGS TO CLASS-I AMINOACYL-TRNA SYNTHETASE FAMILY.
STRONG, TO METHIONYL-TRNA SYNTHETASE.
                                                                                                                                         PWWEWAATHERAFTAAYDALDVLPPSAEP 117
                                                                                                                                                                      PWWPWRRKHE-----AEPEAEP
                                                                                                                                                                                                     l Similarity
10; Conser
                                                                                                                                                                                                                                                                                                                              proteome
                                                                                                                                                                                                                                                                                                                                                                              TIGR00435; cyss;
                                                                                                                                                                                                                                                                270
473 F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seeger K., Simon S., Simmonds M., Skelton J.,
Stevens K., Taylor K., Whitehead S., Woodward
                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 synthetase
                                                                                                                                                                                                                                                                  AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                  270
52124
                                                                                                                                                                                                                                                                                               45
271
                                                                                                                                                                                                                     22.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 (EC
                                                                                                                                                                                                                                                                    MW;
                                                                                                                                                                                                                                                                                                                                                 Protein
                                                                                                                                                                                                      0;
                                                                                                                                                                                                                     Score
Pred.
                                                                                                                                                                                                                                                                  "KMSKS" REGION.
ATP (BY SIMILARITY)
; 9FD6CF859C69316D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                    "HIGH" REGION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tation update)
6.1.1.16) (Cysteine--tRNA ligase
                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                     No.
                                                                                                                                                                                                                                                                                                                                               biosynthesis;
                                                                                                                                                                           22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                 FALSE_NEG
                                                                  1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              473
                                                                                                                                                                                                                   DB
14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A
                                                                  A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tRNA(Cys) =
                                                                                                                                                                                                                                   Length 473;
                                                                                                                                                                                                                                                                       CRC64;
                                                                                                                                                                                                                                                                                                                                                   Ligase; ATP-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Woodward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Actinobacteridae;
                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Squares
d J.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hamlin N.,
                                                                                                                                                                                                         12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                s.,
                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                         1;
```

```
Query Match
Best Local
                                                                                  CARBOHYD
CARBOHYD
                                                                                                  CARBOHYD
CARBOHYD
                                                                                                                  CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                          CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                           CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                  CARBOHYD
CARBOHYD
CARBOHYD
                                                 CARBOHYD
CARBOHYD
                                                                 CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                          CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                           CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                           DOMAIN
CARBOHYD
                                                                                                                                                                                                                                                                                            TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                    Pfam;
                                                                                                                                                                                                                                                                                                                    CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                     This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J. Gen.
                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                             SIGNAL
                                                                                                                                                                                                                                                                                                                                    Glycoprotein;
                                                                                                                                                                                                                                                                                                                                              Pfam;
                                                                                                                                                                                                                                                                                                                                                                                      EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                   entitles requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institumodified and this statement
                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Raabe T., Schelle-Prinz B., Siddell S.G.;
"Nucleotide sequence of the gene encoding the human coronavirus HCV 229E.";
J. Gen. Virol. 71:1065-1073(1990).
-i- FUNCTION: THE PEPLOMER PROTEIN MEDIATES THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=11137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Viruses; ssRNA
Coronaviridae;
                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                              PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. MEDLINE=90264837; PubMed=2345367;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human
                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      glycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUBCELLULAR LOCATION: Type I membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TO
                                                                                                                                                                                                                                                                                                                                                                            ; X16816; CAA34723.1;
A34766; VGIHHC.
                                                                                                                                                                                                                                                                                                                                                                                                                                          SWISS-PROT entry is copyright. It is produced sen the Swiss Institute of Bioinformatics and
                                                                                                                                                                                                                                                                                                                                          Pro; IPR002551; Corona_S1.
Pro; IPR002552; Corona_S2.
PF01600; Corona_S1; 1.
PF01601; Corona_S2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      coronavirus
Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THE HOST CELL RECEPTOR AND IS IN SYNCYTIUM FORMATION.
                                                 568
581
587
663
671
930
1015
1020
1037
1049
1066
1066
                                                                                                                                                                                                                                                                                                                                    Envelope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     positive-strand viruses, Coronavirus.
                         Ã,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     precursor
                                                 (strain 229E)
                                                                                                                                                                                                                                                                                                                                                                                                                    institutions as long as atement is not removed. U
22.4%;
                         128639
                                                                                                                                                                                                                                                                                                                                   protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Spike
                        N-LINKED
N-LINKED
MW; B9CAS
                                                       N-LINKED
                                                                                                                                                                                 N-LINKED
N-LINKED
Score
Pred.
                                                                                                                                                                 N-LINKED
                                                                                                                                                                                                          N-LINKED
                                                                                                                                                                                                                          N-LINKED
                                                                                                                                                                                                                                          N-LINKED
                                                                                                                                                                                                                                                                 CYTOPLASMIC (POTENTIAL)
CYS-RICH.
N-LINKED (GLCNAC. . .)
N-LINKED (GLCNAC. . .)
                                                                                                                                                                                                                                                                                                   EXTRACELLULAR POTENTIAL.
                                                  N-LINKED
                                                                                                                                                                                                                                                           N-LINKED
                                                                                                                                                                                                                                                                                                                    GLYCOPROTEIN
                                                                                                                                                                                                                                                                                                                                   Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     glycoprotein) (Peplomer protein)
54;
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INVOLVED
                                                                                                                                                 (GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
                                                                                                                                                                                                                                          (GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
                                                (GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
(GLCNAC
                                                                                                                                                                                                                          (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                            (See http://www.isb-sib.ch/announce/
DB
35;
                                                                                                                                                                                                                                                                                                                                                                                                                           There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein.
                                                                                                                                                                                                                                                                                                          (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    THE E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA stage; Nidovirales
                                                                                                                                                                                                                                                                                                                                                                                                                    Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     spike
                                                                                                                                                                                                                                                                                                                                  Signal.
       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                           and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BINDING OF VIRIO MEMBRANE FUSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                  through
                                      (POTENTIAL)
                                                                                                                                                                                        (POTENTIAL).
                                                                                                                                                                 (POTENTIAL). (POTENTIAL). (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                     γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     glycoprotein
                               (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                   restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                     and
                                                                                                                                                                                                                                                                                                                                                                                                                                           igh a c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VIRIONS
                                                                                                                                                                                                                                                                                                                                                                                                                     tor
                                                                                                                                                                                                                                                                                                                                                                                                                                             collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                            outstation
                                                                                                                                                                                                                                                                                                                                                                                                                            'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of
                                                                                                                                                                                                                                                                                                                                                                                                                            no
                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                            way
```

```
RESULT
CORI_H
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                InterPro; IPR001314; C
InterPro; IPR000024; F
InterPro; IPR002172; L
InterPro; IPR001254; S
                                                                                                                                                                                             This SWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORI_HUMAN STANDARD; PRT; 1042 AA.
09Y5Q5; Q9UHY2;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Atrial natriuteric peptide-converting enzyme (EC 3.4.21.-) (pro-ANP-converting enzyme) (Corin) (Heart specific serine proteinase ATC2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1113
                                                                                                                                                           the European Bioinformatics Institute. use by non-profit institutions as 1 modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                      natriuretic peptide-converting enzyme.";
Proc. Natl. Acad. Sci. U.S.A. 97:8525-8529(2000).
-i- FUNCTION: CONVERTS PRO-ANP TO ANP. CLEAVES PRO-ANP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDILINE=99282646; PubMed=10329693;
Yan W., Sheng N., Seto M., Morser J.,
"Corin. a mosaic transmembrane serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HUMAN
                                                                  MIM;
                                                                                                                              entities requires a or send an email to
                                                                                                                                                                                                                             -i- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
-i- SIMILARITY: CONTAINS 7 LDL-RECEPTOR CLASS A DOMAINS
-i- SIMILARITY: CONTAINS 2 FRIZZLED (FZ) DOMAINS.
-i- SIMILARITY: CONTAINS 1 SRCR DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Yan W., Sheng N., Seto M., Mors "Corin, a mosaic transmembrane from human heart.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                              MEROPS;
                                                                                                                                                                                                                                                                  MYOCYTES.
                                                                                                                                                                                                                                                                                                                                                         Yan W., Wu F., Morser J., Wu Q.; "Corin, a transmembrane cardiac serine protease,
                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20359740; PubMed=10880574;
                                                                                                                                                                                                                                                                                                                                                                                               CHARACTERIZATION
                                                                                                                                                                                                                                                                                                                                                                                                                             heart myocytes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                         "Localization of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20534769;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 734-1040 FROM N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human).
Eukaryota; Metazoa; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hooper J.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SSUE=Heart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                       TISSUE SPECIFICITY: HIGHLY
                                                                                                                                                                                                                                                                                                  BETWEEN ARG-123 AND SER-124.
SUBCELLULAR LOCATION: Type I
                                                               PS; S01.019;
605236; -.
                                                                                                                                                                                                       SWISS-PROT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KWPWWVW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KWPWWPW
                                                                                                    AF1133845;
AF113248;
                                                                                         P00763;
                                                                                                                                    an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                    Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6;
                                                                                                                                                                                             the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chem.
         IPR001254;
IPR001190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10
                                                                                                                                                                                             Swiss
                                                                                        1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               274:14926-14935(1999).
                                                                                                    AAD31850.1; -. AAF21966.1; -.
                                                                                                                                                                                                         entry is
                                                                                                                                                                                                                                                                                                                                                                                                                    267:6931-6937(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PubMed=11082206;
                                                                                                                                                                                            ry is copyright. It is produced through a collaboration -
                                                                                                                                                   license
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                           mosaic
        Srcr_receptor
                   Ser_protease_Try
                                          Fz_domain
                                                     Chymotrypsin
                               LDL_recept_A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Clarke B.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                         Clarke B.E., Normyle J.F., Anta
transmembrane serine protease
                                                                                                                                                   agreement
                                                                                                                                                           is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                      II membrane
EXPRESSED IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                (See http://www
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ω
                                                                                                                                                                     There are no rest
                                                                                                                                                                                                                                                                                       N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hominidae;
                                                                                                                                                                                                                                                                                                  protein
                                                                                                                                                                                                                                                                                      HEART.
                                                                                                                                                            Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     encoded
                                                                                                                                                                                                                                                                                                                                                           acts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                       EXPRESSED
                                                                                                                                                 .isb-sib
                                                                                                                                                                                restrictions
                                                                                                                                                                                                                                                                                                                                                           as
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Antalis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δq
                                                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                          þ
                                                                                                                                                                                                                                                                                                                                                                                                                                         alis T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D
                                                                                                                                                                                                                                                                                                                                                          pro-atrial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     novel cDNA
                                                                                                                                                            for
                                                                                                                                                                                                                                                                                         IN HEART
                                                                                                                                                 .ch/announce/
                                                                                                                                                                       T n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                         τ X
Ο ,
                                                                                                                                                                                  g
                                                                                                                                                                      no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
```

; PF00089; : PF01392;

; trypsin;
; Fz; 2.

```
ъ
            Qy
                          Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                        SMART; SM00202; SR; 1.

SMART; SM00202; Tryp_SPC; 1.

PROSITE; PS50038; FZ; 2.

PROSITE; PS50068; LDLRA_1; 6.

PROSITE; PS50068; LDLRA_2; 7.

PROSITE; PS50240; TRYPSIN_IDS; FALSE_NE

PROSITE; PS00134; TRYPSIN_IS; FALSE_NE

PROSITE; PS00135; TRYPSIN_SER; 1.

PROSITE; PS00140; SRCR_1; FALSE_NEG.

PROSITE; PS00420; SRCR_2; FALSE_NEG.
                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR00722; C
PRINTS; PR00261; L
SMART; SM00063; FR
SMART; SM00192; LD
                                                                                                                                                                                                            DISULFID DISULFID DISULFID
                                                                                                                                           CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                  CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                ACT_SITE
DISULFID
                                                                                                                                                                                                                                           DOMAIN
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                               DOMAIN
DOMAIN
DOMAIN
                                                                                                                CARBOHYD
CARBOHYD
                                                                                                                             CARBOHYD
CARBOHYD
                                                           MUTAGEN
CONFLICT
CONFLICT
                                                                                                                                                                                                       CARBOHYD
                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                                                                                                                                                      Glycoprotein;
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                   Hydrolase;
                                                                                                                                                                     CARBOHYD
                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                               CARBOHYD
                                                     SEQUENCE
                                                                                                   CARBOHYD
                                                                                CARBOHYD
                                                                                        CARBOHYD
                                                                                             CARBOHYD
 813 WPWQCSLQSEPSGHICGCVLTAKKW
             œ
             WPWRRKHEAEPEAE - - - PIMILKKW
                                                                                                                                                                                                                                                                                                                                                                                                                                           SM00063; FRI; 2
SM00192; LDLa;
                           Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                     Serine
                                                                                                                                           413
446
451
469
567
651
697
761
1022
985
876
876
                           Conservative
                                                                                                                                                                                                                                                                                                                                                             Repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                         LDLRECEPTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHYMOTRYPSIN.
                                                      ΑĀ;
                                                            1042
259
304
                                                                                                                                                                                                                                                                                                                                                                     protease;
                                                                                                                                                                                                                                                                                                                                                 66
                                 22.2%;
36.0%;
                                                      116564
                                                                                                                                                                                  SERINE PROTEASE.
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM (
CHARGE RELAY SYSTEM.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
N-LINKED (GLCNAC.
N-LINKED (GLCNAC.
N-LINKED (GLCNAC.
N-LINKED (GLCNAC.
                                                           N-LINKED (GLCNAC. . . ) (
N-LINKED (GLCNAC. . . ) (
S->A: LOSS OF ACTIVITY.

W -> R (IN REF. 2).

K -> R (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                    Transmembrane;
                                                                                                                                                                                                                                                                                                                                          CYTOPLASMIC (P. SIGNAL-ANCHOR (POTENTIAL).
                          Score 53.5; D
Pred. No. 36;
5; Mismatches
                           5
                                                                                                                       N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
                                                                                                     N-LINKED
                                                                                                                                                                                                                                                                        LDL-RECEPTOR
                                                                                                                                                                                                                                                                                                                                    EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                       LDL-RECEPTOR CLASS
LDL-RECEPTOR CLASS
                                                                                                                                                                                                                                                                                                   LDL-RECEPTOR
                                                                                                                                                                                                                                                                                                          LDL-RECEPTOR
                                                                                                                                                                                                                                                                                                                LDL-RECEPTOR
                                                                                                                                                                                                                                                                                                                      LDL-RECEPTOR
                                                                                             N-LINKED
                                                                                                                   N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                              FALSE_NEG
              29
                                                                                                                                                                                                                                                                                            N
                                                      7705398EBB607AD2 CRC64;
                                                                                             GELCNAC.
                                                                                                                                                                                                                                                                                                  CLASS
CLASS
CLASS
                                                                                                                                                                                                                                                                                                                                                 (POTENTIAL).
)R (TYPE-II MEMBRANE PROTEIN)
                                         DB
                                                                                                                                                                                                                                                                                                                                                                     Signal-anchor;
                                         1;
                            8
                                                                                                                                                                                                                                                                        DDD
                                                                                                                                                                                                                                                                                                   D D D D
                                                                                                                                                                                                                                             (BY
                                         Length 1042;
                                                                                                                                                                                                                                                                        765
                                                                                                                                                                                                                                                                                                   <u>+ων</u>-
                            Indels
                                                                                                                                                  (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                 (POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                    (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                             (POTENTIAL).
                                                                                                     (POTENTIAL)
                                                                                               (POTENTIAL)
                                                                                                                                                                                                                                               SIMILARITY).
                                                                                                                                      POTENTIAL)
                            ω,
                             Gaps
                             1;
```

```
RESULT 14
CORI_MOUSE
PRINTS; PRO0722; CHYMOTRYPSIN.
PRINTS; PR007261; LDLARECEPTOR.
SMART; SM00063; FRI; 2.
SMART; SM00063; FRI; 2.
SMART; SM00020; SR; 1.
SMART; SM00020; Tryp_SPC; 1.
SMART; SM00020; Tryp_SPC; 1.
SMART; SM00020; Tryp_SPC; 1.
PROSITE; PS50038; FZ; 2.
PROSITE; PS50038; FZ; 2.
PROSITE; PS50068; LDLRA_2; 7.
PROSITE; PS50068; LDLRA_2; 7.
PROSITE; PS50240; SRCR_1; FALSE_NEG.
PROSITE; PS50240; TRYPSIN_DOM; 1.
PROSITE; PS50240; TRYPSIN_DOM; 1.
PROSITE; PS50240; TRYPSIN_DOM; 1.
PROSITE; PS50240; TRYPSIN_DOM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PUNCTION: CONVERTS PRO-AMP TO AMP. CLEAVES PRO-AMP S
BETWEEN ARG-122 AND SER-123 (BY SIMILARITY).

SUBCELLULAR LOCATION: Type II membrane protein.

TISSUE SPECIFICITY: HIGHLY EXPRESSED IN HEART.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.

SIMILARITY: CONTAINS 7 LDL-RECEPTOR CLASS A DOMAINS.

SIMILARITY: CONTAINS 2 FRIZZLED (FZ) DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

MEDILINE=98429596; PubMed=9756624;

MEDILINE=98429596; PubMed=9756624;

Tomita Y., Kim D.-H., Magoori K., Fujino T., Yamamoto T.T.

Tomita Y., Kim D.-H., Magoori K., Fujino T., Yamamoto T.T.

"A novel low-density lipoprotein receptor-related protein
membrane protein-like structure is abundant in heart.";

J. Blochem. 124:784-789(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein 4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRN OR LRP4.
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                         Pfam; PF00089; trypsin; Pfam; PF01392; Fz; 2.
                                                                                                                                                                                                                                                                                                                                                                                   MEROPS; SO1.019; ...
MGD; MGI:1349451; Lrp4.
MGD; MGI:1349451; Lrp4.
InterPro; IPR001314; Chymotrypsin.
InterPro; IPR00024; Fz_domain.
InterPro; IPR001272; LDL_recept_A.
InterPro; IPR001219; Ser_protease_Try.
InterPro; IPR001190; Sicr_receptor.
InterPro; IPR001190; Sicr_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AB013874;
HSSP; P00763; 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00057; ldl_recept_a;
                                                                          Glycoprotein;
                                                                                                                      PROSITE; PS00134; PROSITE; PS00135;
                                                           TRANSMEM
                                                                                                     Hydrolase;
                                                                                                         Serine
                                                                                        Repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1DPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BAA34371.1;
 1113
327
372
                                                                                                          protease;
                                                                                                                          TRYPSIN_SER; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chordata;
Rodentia;
                                                                            112
                                                                                                          Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                           CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE
                              (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
   LDL-RECEPTOR CLASS A 1
                                                                                                          Signal-anchor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPECIFICALLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
with
                                                                  PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              II
```

```
Š
                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                          CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                       CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                       DISULFID
DISULFID
DISULFID
DISULFID
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                            CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                          CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                        ACT_SITE
                                                                     TISSUE-Seed;
MEDLINE-94345008; PubMed-8066133;
                                                                                                                                         p48628;
01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Omega-6 fatty acid desaturase, chloroplast pro-
                                                                                                                                                                            SOYBN
FD6C_S
                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
DOMAIN
DOMAIN
                                                                                                             Glycine max (Soybean).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosideurosids; Fabales; Fabaceae; Papilionoideae; Phaseoleae; Glycine
                                                                                                                                                                                                                                                                                                                                                       CARBOHYD
                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                  ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                           NCBI_TaxID=3847;
                                                                                                                                                                                                              880
                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                          œ
                                                                                                                                                                                                                          WPWRRKHEAEPEAE---PIMILKKW 29
                                                                                                                                                                                                             WPWQCSLQSEPSGHICGCVLIAKKW 904
                                                                                                                                                                            SOYBN
                                                                                                                                                                                                                                        Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                                        722
758
869
910
959
959
1052
1052
857
895
                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                  ΑA;
                                                                                                                                                                                                                                                                       828
970
1089
                                                                                                                                                                                                                                                                                                  22.2%;
36.0%;
                                                                                                                                                                                                                                                                  122984
                                                                                                                                                                                                                                                                  ¥.
                                                                                                                                                                                                                                                                                                                                               CHARGE RE
CHARGE RE
BY SIMILA
BY SIMILA
BY SIMILA
BY SIMILA
BY SIMILA
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
                                                                                                                                                                                                                                             Score
Pred.
                                                                                                                                                                                                                                                                       N-LINKED
                                                                                                                                                                                                                                                                                          N-LINKED
                                                                                                                                                                                                                                                                                                       N-LINKED
                                                                                                                                                                                                                                                                                                                     N-LINKED
                                                                                                                                                                                                                                                                                                                                  N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LDL-RECEPTOR CLASS
LDL-RECEPTOR CLASS
                                                                                                                                                                                                                                                                                                                                                                                                                              SERINE PROTEASE.
CHARGE RELAY SYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                 LDL-RECEPTOR CLASS
LDL-RECEPTOR CLASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LDL-RECEPTOR FZ 2.
                                                                                                                                                                                                                                                                                     N-LINKED
                                                                                                                                                                            PRT;
                                                                          J.R. Jr.,
                                                                                                                                                                                                                                                                LINKED (GLCNAC...
B845B2C5F20DD8EC
                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY. SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY. SIMILARITY.
                                                                                                                                                                                                                                             No. 38;
                                                                                                                                                                                                                                                                                                                                                                                                                RELAY SYSTEM
RELAY SYSTEM
                                                                                                                                                                            424
                                                                                                                                                                                                                                                                                                                    GLCNAC.
                                                                                                                                                                            A
                                                                          Kinney A.J.,
                                                                                                                                                                                                                                                    DB
                                                                                                                                           precursor
                                                                                                                                                                                                                                                    1;
                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                  DDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \triangleright
                                                                                                                                                                                                                                                                                                                                                                                                                (BY
(BY)
                                                                                                                                                                                                                                                    Length 1113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>+</u>ω.ν
                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                       (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                        (POTENTIAL). (POTENTIAL). (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                             (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                ( SIMILARITY).
( SIMILARITY).
( SIMILARITY).
                                                                                                                                                                                                                                                                                          (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                   (POTENTIAL).
                                                                                                                                                                                                                                                                              (POTENTIAL)
                                                                                                                                                                                                                                                                       (POTENTIAL)
                                                                                                                                           SE
SE
                                                                          Stecca
                                                                                                                                           1.14.99.-)
                                                                                                                  Glycine.
                                                                          K.L.,
                                                                                                                       Rosidae;
                                                                                                                                                                                                                                       Gaps
```

```
Search completed: December 11, Job time : 13 secs
                                                                                                                     Вр
                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                       SO STATES OF STA
                                                                                                                                                                                                                              Query Match
Best Local S
Matches 11
                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Transit
TRANSIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EW the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entities requires a license agreement (See http://www.isb-sor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; L29215; AAA50158.1; -. InterPro; IPR001225; FA_desaturase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oxidoreductase; Fatty acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <del>:</del>
                                                                                                                        192 YPYEPWRFKHDRH-HAKTNMLREDTAWHPVWK
                                                                                                                                                            5 WPWWPWRRKHEAEPEAEPIMILKKWPWWP-WR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN: THE HISTIDINE BOX DOMAINS MAY CONTAIN THE ACTIVE AND/ OR BE INVOLVED IN METAL ION BINDING. SIMILARITY: BELONGS TO THE FATTY ACID DESATURASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PF00487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F00487; FA_desaturase; 1. PD001081; FA_desaturase; 1.
                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                       424
                                                                                                                                                                                                                                                                                                                                                                                  165
201
361
                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                       Ā,
                                                                                                                                                                                                                                                                                                                                                                                  424
169
205
365
                                                                                                                                                                                                                                                                                                                                                       49641 MW;
                                                                                                                                                                                                                                                             22.0%;
                                    2002,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        biosynthesis; Chloroplast; Membrane;
                                                                                                                                                                                                                                 7;
                                                                                                                                                                                                                              Score 53; DB Pred. No. 17; 7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                  HISTIDINE BOX-2
HISTIDINE BOX-3
                                                                                                                                                                                                                                                                                                                                                                                                                                           OMEGA-6 FATTY A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHLOROPLAST
                                                                                                                                                                                                                                                                                                                                                    4F3DF52D4B1A2009 CRC64;
                                    15:39:03
                                                                                                                                                                                                                                                                                                                                                                                                                                                 S FATTY AC
                                                                                                                        222
                                                                                                                                                                           ω
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACID
                                                                                                                                                                                                                                 12;
                                                                                                                                                                                                                                                                                           Length 424;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DESATURASE
                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ı.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ø
                                                                                                                                                                                                                                 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           n
                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     way
                                                                                                                                                                                                                                 2
```

THIS PAGE BLANK (USPTO)

```
Run on:
                                                         OM protein - protein search, using sw model
December 11, 2002, 15:38:09; Search time 19 Seconds
                                                                                                                                              GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd
```

(without alignments) 187.209 Million cell updates/sec

Title: Perfect score:

US-09-444-281-35-27-35
241
1 ILKKWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100% Listing first 45 summaries

PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:* pir1:*
pir2:*
pir3:*
pir4:*

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	ω	2	ᆫ	No.	Result	
54	54	54	54	54	54.5	54.5	54.5	54.5	55	55	55	55.5	55.5	55.5	56	57	57.5	58	58	59	59	S	59.5	60	62	63	63	78	Score		
22.4	22.4	22.4	22.4	22.4													23.9											32.4	•	Query	dЮ
1173	473	469	187	144	547	451	340	134	715	352	245	1940	990	527	452	711	376	513	107	485	95	2290	114	381	314	192	192	144	Length		
ب	N	2	N	N	N	N	N	N	N	N	N	N	μ	N	N	N	N	N	N	N	2	–	N	N	2	N	N	۳	: B		
VGIHHC	C86949	в70607	AB1647	S35331	T45635	S30401	PH0217	E72532	B70741	S77448	C69459	A59287	G46335	S33068	T28094	C40046	T40591	S21976	T35634	S74708	E86447	GNNYE	T36208	B87470	S43916	D72081	H86543	JC1222	ID		
E2 glycoprotein pr	cyste	to				hypothetical prote	n)		ж	hypothetical prote		myosin heavy chain	ጠ	-	hypothetical prote	H	hypothetical prote			hypothetical prote	protein F5D14.5 [i	₽.		_	hypothetical prote	~	hypothetical prote	olicidin prec	ion		

hypothetical protein CPj0426 (imported) - Chlamydophila pneumoniae (strain J138) C; Species: Chlamydophila pneumoniae, Chlamyddia pneumoniae (c; Species: Chlamydophila pneumoniae, Chlamyddia pneumoniae (c; Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 02-Mar-2001 C; Accession: H86543 Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; R; Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Rucleic Acids Res. 28, 2311-2314, 2000
A; Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A; Reference number: A86491; MUID:20330349; PMID:10871362

4.4 5	4 4 3 .	40 41	39	38	37	36	35	34	33	32	31	30
52.5 52.5	52.5 52.5	52.5 52.5	52.5	53	53	53	53	53	53	53	53.5	53.5
21.8 21.8	21.8 21.8	21.8 21.8	21.8	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.2	22.2
518 621	471 490	228 449	55	2292	949	691	480	424	406	83	1113	538
22	22	22	ν	N	N	Ν	2	2	N	N	ν	Ν
T29589 S37664	T50016 T21365	AD3326 C84618	T11026	S35961	E75352	D71430	JC7552	T07742	H69143	E82799	JE0315	в84759
hypothetical prote peplomeric polypro	transcription fact hypothetical prote	chloramphenicol O- hypothetical prote	H+-transporting tw	capsid polyprotein	glycine cleavage s	hypothetical prote	Shb-like adapter p	omega~6 desaturase	coenzyme F420-redu	hypothetical prote	low-density lipopr	hypothetical prote

ALIGNMENTS

RESULT 2	OY 19 EAEPIMILKKWPWWPWRR 36 : ::: Db 126 ELQSVILPWKWPWWPWRR 143	Query Match 32.4%; Score 78; DB 1; Length 144; Best Local Similarity 55.6%; Pred. No. 0.011; Matches 10; Conservative 4; Mismatches 4; Indels 0; Gaps 0;	RESULT 1 Yollozz indolicidin precursor - bovine N;Alternate names: antimicrobial peptide C;Species: Bos primigenius taurus (cattle) C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999 C;Caccession: JC1222; A42387; S25664 R;del Sal, G.; Storicl, P.; Schneider, C.; Romeo, D.; Zanetti, M. R;del Sal, G.; Storicl, P.; Schneider, C.; Romeo, D.; Zanetti, M. Biochem. Biophys. Res. Commun. 1877, 467-472, 1992 A;Title: cDNA cloning of the neutrophil bactericidal peptide indolicidin. A;Reference number: JC1222; MUID:92392368; PMID:1520337 A;Acccession: JC1222 A;Acccession: JC1222 A;Acccession: JC1222 A;Acccession: JC1222 A;Acccession: JC1222 A;Acccession: L-144 <sal> A;Acccession: L-144 <sal> A;Acccession: L-144 <sal> A;Acccession: A42387; MUID:92165771; PMID:CAA47755.1; PID:9463 A;Title: Indolicidin, a novel bactericidal tridecapeptide amide from neutrophils. A;Acccession: A42387 A;Acccession: A42387; MUID:92165771; PMID:1537821 A;Acccession: A42387 A;Molecule type: protein A;Acccession: A42387; MUID:92165771; PMID:1537821 A;Acccession: A42387; MUID:92165771; PMID:1537821 A;Molecule type: protein A;Acccession: J1-143 <sel> A;Acccession: A42387; MUID:92165771; PMID:1537821 A;Acccession: J1-143 <sel> A;Acccession: J1-143 SEL> A;Acccession: J1-144 SEL></sel></sel></sel></sel></sel></sel></sel></sel></sel></sal></sal></sal>	
----------	---	--	--	--

```
A;Cross-references: GB:AE001625; GB:AE001363; NID:g4376695; PIDN:AAD18570.1; PID:g437670 A;Experimental source: strain CWLO29 R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000
A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39. A;Reference number: A81500; MUID:20150255; PMID:10684935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             conserved hypothetical protein frameshifted CP0327 [imported] - Chlamydophi N;Alternate names: hypothetical protein CT277 homolog C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 11-May-2000 C;Date: 23-Apr-1999 #sequence_revision 24-Apr-1999 #sequence_revision 24-Apr-1999 #sequence_revision 24-Apr-1999 #sequence_revision 24-Apr-1999 #sequence_revision 24-Apr-1999 #sequence_revision 24-Ap
Mol. Gén. Genet. 243, 343-352, 1994
A;Title: Molecular cloning of a maltose transport gene from A;Reference number: S43914; MUID:94247374; PMID:8190087
A;Accession: S43916
A;Status: preliminary
A;Molecule type: DNA
A;Resiques: 1-314 <LIO>
A;Cross-Deferences: EMBL:L13418; NID:9436964; PIDN:AAA71981.
A;Note: the authors translated the initiation codon GTG for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis A;Reference number: A72000; MUID:99206606; PMID:10192388 A;Accession: D72081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, Nature Genet. 21, 385-389, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-192 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Accession: H86543
A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:AE002195; GB:AE002161; NID:g7189246; PIDN:AAF38182.1; PID:g718925
A;Experimental source: strain AR39, HL cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-192 < REA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Accession: D72081; G81589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:BA000008; NID:g8978798; PIDN:BAA98634.1; GSPDB:GN00142
                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein 3 - Bacillus stearothermophilus C;Species: Bacillus stearothermophilus C;Date: 27-Jan-1995 #sequence_revision 27-Jan-1995 #:C;Accession: S43916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-192 <ARN>
                                                                                                                                                                                                                                                                                                                                                           R; Liong, E.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                138 WPWLPKKRQIEKLPKGEGICFLSAYP 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CPj0426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Çī
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CPn0426;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPWWPWRRKHEAEPEAEPIMILKKWP 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPWLPKKRQIEKLPKGEGICFLSAYP 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPWWPWRRKHEAEPEAEPIMILKKWP 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                               Ferenci,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CP0327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26.1%;
42.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 63;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 63;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                             27-Jan-1995 #text_change 15-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ВВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DВ
        PIDN:AAA71981.1; PID:g436967 codon GTG for residue 1 as Val
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J.; Olinger, L.;
                                                                                                                                                                                                                                                                                          Bacillus stearothermophilus

    Chlamydophila

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Grimwood,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ΩУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
```

```
R;Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Ko n, J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C Proc. Natl. Acad. Sci. U.S.A. 98, 4164-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein CC1782 [imported] - Caulobacter crescentus C;Species: Caulobacter crescentus C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 20-Apr-2001 C;Accession: B87470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein SCE36.09 - Streptomyces coelicolor C;Species: Streptomyces coelicolor C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #tex C;Accession: T36208
genome polyprotein - encephalomyocarditis vir N;Contains: coat protein VP1; coat protein VP2 BC 3.4.--); RNA-directed RNA polymerase (BC C;Species: encephalomyocarditis virus, EMCV A;Note: host Homo sapiens (man)
                                                                                                   RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Oliver, K.; Harris, D.; Bentley, S.D.; Parkhill, J.; Barrell, submitted to the EMBL Data Library, May 1999
A;Reference number: Z21601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Gene: CC1782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:AE005673; NID:g13423210; PIDN:AAK23758.1; GSPDB:GN00148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-381 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Reference number: A87249; A; Accession: B87470
                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: EMBL:AL049763; PIDN:CAB42078.1; GSPDB:GN00070; SCOEDB:SCE36.09
A;Experimental source: strain A3(2)
                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-114 <OLI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Status: preliminary; translated from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Reference number: A; Accession: T36208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T36208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 6
                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                          Genetics:
Gene: SCOEDB:SCE36.09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       170 WWPRRGGWRKALQMKPRAAPLRKLYDW 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             222 LKQWQWEQAKARWEAERDADGARREPGETWDFLLDKPSWWERLIGRWRR
                                                                                                                                                                                   93
                                                                                                                                                                                                                                                         Local Similarity es 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N
                                                                                                                                                                                                                      18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LKKWPWWPWRRKHEAEPEA---
                                                                                                                                                                                                          PEAEPIMILKKW-PWWPWRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WWP----WRRKHEAEPEAEPIMILKKW 29
                                                                                                                                                                                   PETAPADAARRWRPRWPWRR 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l Similarity
10; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                encephalomyocarditis virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25.7%;
                                                                                                                                                                                                                                                                                24.7%;
                                                                                                                                                                                                                        36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --EP----IMILKKWPWWP----
                                                                                                                                                                                                                                                             2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 60;
Pred. No.
                                                                                                                                                                                                                                                                                Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 62; DB
Pred. No. 2.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                59.5;
No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB
                                                                                                                                                                                                                                                                                .6;
                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13;
                                                                                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                               7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 #text_change 03-Dec-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 381;
                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WRR 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B.G.; Rajandream,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4;
                                                                                                                                                                                                                                                                 ۲,
                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1;
                                                                                                                                                                                                                                                                 1;
```

2.7.7.48)

VP3; coat protein

VP4; c

Yas

```
R.Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; A.; Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dew. ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000

A; Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; IC.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Ma. Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A; A; Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; T.

A; A; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A; Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A; Accession: E86447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F;1057-1192/Product: core protein P2-B *status predicted <P2B>F;1193-1517/Product: core protein P2-C *status predicted <P2C>F;1518-1605/Product: core protein P3-A *status predicted <P3A>F;1606-1625/Product: genome-linked protein VPg *status predicted F;1626-1830/Product: proteinase *status predicted <PTS>F;1831-2290/Product: RNA-directed RNA polymerase *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Note: the authors translated the codon CAU for residue 713 as Thr and C; Superfamily: foot-and-mouth disease virus genome polyprotein C: Keywords: coat protein; core protein; genome-linked protein; hydrolase F; 1-67/Domain: leader peptide #status predicted <LDP>
F; 68-136/Product: coat protein VP4 #status predicted <VP4>
F; 68-136/Product: coat protein VP4 #status predicted <VP4>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein F5D14.5 [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Mar-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F;137-391/Product: coat protein VP2 *status predicted <VP2>
F;392-622/Product: coat protein VP3 *status predicted <VP3>
F;623-910/Product: coat protein VP1 *status predicted <VP1>
F;623-910/Product: core protein P2-A *status predicted <P2A>
F;911-1056/Product: core protein P2-A *status predicted <P2A>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: genomic RNA
A;Residues: 1337-1396,'L',1398-1517,'A',1519-1536,'E',1538-1556,'S',1558-1611,'T',1613-
A;Cross-references: GB:M54935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Residues: 1-290 <PAL>
A;Cross-references: GB:X00463; NID:g61034; PIDN:CAA25152.1; PID:g61035
R;Petrov, N.A.; Chizhikov, V.E.; Blinov, V.M.; Karginov, V.A.; Mikryukov,
Bioorg, Khim. 10, 274-279, 1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R; Palmenberg, A.C.; Kirby, E.M.; Janda, M.R.; Drake, N.L.; I
Nucleic Acids Res. 12, 2969-2985, 1984
A;Title: The nucleotide and deduced amino acid sequences of
A;Reference number: A03906; MUID:84169586; PMID:6324136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Date: 28-Aug-1985 #sequence_revision 28-Aug-1985 #text_change 16-Jul-1999
C;Accession: A03906; JN0383
R;Palmenberg, A.C.; Kirby, E.M.; Janda, M.R.; Drake, N.L.; Duke, G.M.; Potr
                                                                                                                                                                                                                                     A; Residues: 1-95 <ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Reference number: JN0383; MUID:85022788; A;Accession: JN0383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Title: Nucleotide sequence of the 3'-terminus of encephalomyocarditis virus A;Reference number: JN0383; MUID:85022788; PMID:6091680
                                                                                                                       A; Map
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Accession: A03906
                                                                                                                                                                                                            A;Cross-references: GB:AE005172;
                                                                                                                                                                                                                                                                                               A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C; Accession: E86447
                              Query Match
Best Local
                                                                                                                                                                                 Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  967 PWNPWKNTYQAVLRAEPCRVTMDIYYKRVRPFRLPLVQKEWP 1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6 PWWPWRRKHEAEPEAEPI----
      10;
                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                           <ST0>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  genomic RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 proteinase #status predicted <PTS>
RNA-directed RNA polymerase #status predicted <RDP>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24.7%;
26.2%;
                              24.5%;
                                                                                                                                                                                                         NID: g8920603; PIDN: AAF81325.1; GSPDB: GN00141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6;
   5.
                           Score 59;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 59.5;
Pred. No. 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----MILKKWP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38;
                           DB 1.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1;
                                                      2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
4:
                                                      Length 95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 2290;
Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hydrolase; nucleotidyltr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       encephalomyocarditis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17;
28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <VPG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Khaykin, E.; Kim,
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Potratz,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N. N. ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R.; Marziali
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for
ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dewar,
                                                                                                                                                                                                                                                                                                                                                                                                                                              Tallon,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alonso,
war, K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gutorov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ۷.
```

A; Reference number: S16783 A; Accession: S21976

submitted to the EMBL Data

Library,

August 1991

3

C; Accession: R; Kahre, O.;

S21976

Ilves, H.; Speek,

C; Species: Rattus norvegicus (Norway ra C; Date: 19-Mar-1997 #sequence_revision

rat)

17-Oct-1997

#text_change

26-Aug-1999

(clone MH2C)

rat retrotransposon

probable RNA-directed DNA polymerase (EC 2.7.7.49)
N;Alternate names: reverse transcriptase

S21976

RESULT 11

```
C; Geneti
A; Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Date: 25-Apr-1997
C;Accession: S74708
R;Kaneko, T.; Sato,
                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-107 <SEE>
A; Cross-references: EMB
                                                                                                                                                                                                                                                                                                          hypothetical protein SC6G9.38 - Streptomyces coelicolor C;Species: Streptomyces coelicolor C;Species: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hypothetical protein slr1306 - C; Species: Synechocystis sp. A; Variety: PCC 6803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
밁
                           Q
                                                                                                                                                                                                                                                               submitted to the EMBL Data Library,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: EMBL:D90901; GB:AB001339; A;Note: the nucleotide sequence was submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-485 <KAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Reference number: S74322; MUID:97061201; PMID:8905231 A; Accession: S74708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA Res. 3, 109-136, 1996
A;Title: Sequence analysis of the genome of the unicellular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                      A;Cross-references: EMBL:AL079356; PIDN:CAB45629.1; GSPDB:GN00070; SCOEDB:SC6G9.38
A;Experlmental source: strain A3(2)
                                                                                                                                                                                                                 A; Status: preliminary; translated from
                                                                                                                                                                                                                                  A; Accession:
                                                                                                                                                                                                                                                A; Reference number: Z21584
                                                                                                                                                                                                                                                                                R;Seeger, K.J.; Harris, D.;
                                                                                                                                                                                                                                                                                             C; Accession: T35634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                T35634
                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                              Matches
                                                                                                                                         Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               K.; Okumura, S.; Shimpo, S.; Takeuchi,
A Res. 3, 109-136, 1996
                                                                                                                                                                                                                                                                                                                                                                             10
79
                                                                                                                                                                                                                                                                                                                                                                                                                           41 PWDQWGLWALSGLGLVIWRWRRRHHAPPEQKQMLTPEVLQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         46
                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                          3 KKWPWWPWRRKHEAEPEAEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ocal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G
                                                                                                                         SCOEDB: SC6G9.38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-Apr-1997 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WP--
RKWPWSKPERPSAAEPDATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                          PW----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPVVVVAGVGGGRNWWWW-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        l Similarity
12; Conser
                                                           l Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----WPWRRKHEAEPEAEPIM---ILKK
                                                                         24.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24.5%;
                                                                                                                                                                                                                                                                                James, K.D.;
98
                        22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synechocystis sp.
                                                           2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6;
                                                                         Score 58;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 59; I
Pred. No. 8.
                                                                                                                                                                                                                                                                 June
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                              Mismatches
                                                                                                                                                                                                                   GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-Apr-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         - PVLVITDVGGEWSWWWW
                                                                                                                                                                                                                                                                 Parkhill,
1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
8.6;
                                                                         2 DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NID:g1651897; PIDN:BAA16859.1; to the EMBL Data Library, June
                                                                                        2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (strain
                                                                                                                                                                                                                                                                                J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>ن</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #text_change 08-Oct-1999
                                                           . 8
                                                                                                                                                                                                                                                                                                                                                                                                                           81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 485;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        28
                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                            Indels
                                                                                                                                                                                                                                                                                Barrell,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E.; Nakamura, Y.; Miyajima,
Watanabe, A.; Yamada, M.; Ya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81
                                                                                          107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cyanobacterium Synechocys
                                                                                                                                                                                                                                                                                B.G.;
                                                                                                                                                                                                                                                                                                               05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18;
                                                           0;
                                                           Gaps
                                                                                                                                                                                                                                                                                Rajandream,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PID:d101
                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2
```

3

```
A;Residues: 1-513 <KAH>
A;Cross-references: EMBL:X61295; NID:g56521; PIDN:CAA43593.1; PID:g56522
A;Experimental source: clone MH2C
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein SPBC646.15c - fission yeast (Schizosaccharomyces pombe, C;Species: Schizosaccharomyces pombe C;Species: Schizosaccharomyces pombe C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 04-Mar-2000 C;Accession: T40591 R;Seeger, K.; Harris, D.; Wood, V.; Rajandream, M.A.; Barrell, B.G. submitted to the EMBL Data Library, January 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 12
T40591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Mobile element: retrotransposon L1
C;Superfamily: pol polyprotein
C;Keywords: nucleotidyltransferase; polyprotein; reverse transcriptase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                  antibiotic transport-associated protein actII-3 - Streptomyces coelicolor
C;Species: Streptomyces coelicolor
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 22-Oct-199
C;Accession: C40046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Map position: 2
A; Introns: 49/1; 126/2; 312/2; 350/1
C; Superfamily: Schizosaccharomyces p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Experimental source: strain C; Genetics:
A; Gene: SPDB: SPBC646.15c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Reference number: 221938
A;Accession: T40591
A;Status: preliminary; translated from GB/EMBL/DDBJ
               RESULT 14
T28094
                                                                                                                                                                                                                                                                                                                                                        R;Fernandez-Moreno, M.A.; Caballero, J.L.; Hopwood, D.A.; Malpartida, F. Cell 66, 769-780, 1991
A;Title: The act cluster contains regulatory and antibiotic export genes, direct targets A;Title: The act cluster contains regulatory and antibiotic export genes, direct targets A;Reference number: A40046; MUID:91347376; PMID:1878971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-376 <SEE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                       Qy
                                                                                                                                                                                                                                                                 A;Molecule type: DNA
A;Residues: 1-711 <FER>
A;Cross-references: GB:M64683; NID:g153143; PIDN:AAA26691.1; PID:g153146
                                                                                                    B
                                                                                                                                                                                                                                                                                                                                A; Reference number: A40046; A; Accession: C40046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cross-references: EMBL:AL035216; PIDN:CAA22819.1; GSPDB:GN00067; SPDB:SPBC646.15c Experimental source: strain 972h-; cosmid c646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                        Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           373 IFSKWCWFNWRATCRRMQIDPCLSPCTKLKSKW 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      236 WHWKRKQKSSS-----LKVRPWGPW 255
                                                                                                      332 IFGRWVFWPARPKHGTEPD 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 ILKKWPWWPWR----RKHEAEPEAEPIMILK-KW 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 WPWRRKHEAEPEAEPIMILKKWPWWPW 34
                                                                                                                                                                                                      Local
ð
                                                                                                                                           ILKKWPWWPWRRKHEAEPE 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           l Similarity 39.4
13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                    Similarity
9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Schizosaccharomyces pombe hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24.1%; 39.4%;
                                                                                                                                                                                                          23.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 58; DB
Pred. No. 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 57.5; DI
Pred. No. 10;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ω
                                                                                                                                                                                                          Score 57; DB Pred. No. 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         fission yeast (Schizosaccharomyces pombe)
                                                                                                                                                                                                                                                                                                                                                                                                                     J.L.; Hopwood, D.A.; Malpartida, F.
                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            #text_change 22-0ct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 513;
                                                                                                                                                                                         7;
                                                                                                                                                                                                                              Length 711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPBC646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7;
                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1;
                                                                                                                                                                                               0;
```

```
hypothetical protein ZK899.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-oct-1999 #sequence_revision 15-oct-1999 #text_change 04-Mar-2000
C;Accession: T28094
                                                                                                                                                                                                                              myosin heavy chain - fluke (Schistosoma mansoni) (fragment)
N;Alternate names: surface antigen, 200K
C;Species: Schistosoma mansoni
C;Date: 22-Nov-1993 #sequence_revision 06-Sep-1996 #text_change 13-Feb-1998
C;Accession: S33068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Map position: X
A;Introns: 34/3; 143/2; 227/2; 262/3; 380/3
C;Superfamily: Caenorhabditis elegans hypothetical protein ZK899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-452 <WIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Reference number:
A; Accession: T28094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                submitted to the EMBL Data A; Reference number: Z20468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:Z37140; PIDN:CAA85502.1; GSPDB:GN00028; CESP:ZK899.2
A;Experimental source: clone ZK899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Residues:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Kershaw, J.
                                                                                                                                 A;Cross-references: EMBL:X65591
A;Note: the authors translated the codon CAA for residue 346 as C;Superfamily: myosin heavy chain; myosin motor domain homology C;Keywords: ATP; surface antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-527 <SOI>
                               δÃ
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                  Query Match
Best Local (
                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     172
106 VLRNWPWWRLYTKVKPMLNIARQEEEMKKAAEELAKLKE
                                                                 Local Similarity
mes 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 KWPWWPWRRKHEAEPEAEPIMILKKWPWWPW 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity es 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CESP: ZK899.2
                             1 ILKKWPWW-----PW----RRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KLVWWTW---HDTDPN----IFDRMNWVPW 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                   Conservative
                                                                                                                                                                                                                                                                                          Masterson, C.P.; Tom, T.D.; McNally, M.T.; Lowell, 612-3620, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23.2%;
                                                                                     23.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Library,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ω
                                                                     score 55.5; D
pred. No. 25;
7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 56;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   September 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
. 19;
                                                                                                        DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
       144
                                                                                                        2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10;
                                                                       9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 452;
                                                                                                        Length 527;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                          Indels
                                                                                                                                                                                                                                                                                 a 62-kDa recombinant fragment
                                                                                                                                                                             Lys
                                                                          11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                          Gaps
                                                                                                                                                                                                                                                                                                                  G.H.; Strand,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
                                                                            2
```

Search completed: December 11, 2002, 15:40:25
Job time: 21 secs

```
Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein search, using sw model
10:
11:
12:
13:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-444-281-35-27-35
241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            103943 seqs, 16242309 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           December 11,
                                                                                                                                                                                                                                                                                                                                                                                              Published_Applications_AA: *
           /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
/cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
/cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
/cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ILKKWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
/cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002, 15:39:44; Search time 11 Seconds (without alignments) 54.633 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       103943
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result

Result	Score	Query Match Le	Length	DB	ID	Description
1	141.5	58.7	28	10	US-09-030-619-104	Sequence 104, App
2	137.5	57.1	28	10	US-09-030-619-50	50,
ω	99	41.1	21	10	US-09-030-619-69	Sequence 69, Appl
4	98	40.7	21	10	US-09-030-619-52	52,
Сı	93.5	38.8	20	10	US-09-030-619-51	•
σ	91	37.8	13	10	US-09-030-619-95	Sequence 95, Appl
7	91	37.8	13	10	us-09-030-619-99	`
8	91	37.8	14	10	US-09-030-619-72	72,
9	91	37.8	14	10	US-09-030-619-108	,w
10	87.5	36.3	21	10	US-09-030-619-47	
11	87	36.1	12	10	US-09-030-619-67	
12	86	35.7	12	10	US-09-030-619-112	
13	86	35.7	13	10	US-09-030-619-53	Sequence 53, Appl
14	86	35.7	13	10	US-09-030-619-107	107,
15	86	35.7	13	10	US-09-030-619-109	Sequence 109, App
16	86	35.7	14	10	US-09-030-619-54	Sequence 54, Appl
17	86	35.7	14	10	US-09-030-619-110	, 110,
18	85	35.3	12	10	US-09-030-619-73	73,
19	85	35.3	13	10	US-09-030-619-41	41,

83.5 34.6 15 10 US-09-030-619-49 83 34.4 13 10 US-09-030-619-105 83 34.4 21 10 US-09-030-619-106 83 34.4 22 110 US-09-030-619-24 82.5 34.2 21 10 US-09-030-619-59 82 34.0 13 10 US-09-030-619-94 82 34.0 13 10 US-09-030-619-102 81 33.6 11 10 US-09-030-619-114 82 34.0 13 10 US-09-030-619-114 83.4 11 10 US-09-030-619-12 81 33.6 11 10 US-09-030-619-13 78 32.4 11 10 US-09-030-619-43 79.5 32.2 12 10 US-09-030-619-43 77.5 31.1 12 10 US-09-030-619-82 78 31.1 12 10 US-09-030-619-82 79.5 31.1 12 10 US-09-030-619-75 31.1 12 10 US-09-030-619-75 31.1 12 10 US-09-030-619-75 31.3 30.3 9 10 US-09-030-619-76 73 30.3 10 10 US-09-030-619-81	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	17
	73	73	73.5	73.5	75	75	75	76	77	77.5	78	78	78	81	81	82	82	82	82	82.5	83	83	83	83	83.5
111111111111111111111111111111111111111	30.3	30.3	30.5	30.5	31.1	31.1	31.1	31.5						33.6	33.6							34.4	34.4	34.4	34.6
	10	9	12	12	12	12	12	12	12	12	12	11	11	11	11	13	13	13	13	21	20	13	13	12	L
US-09-030-619-14 US-09-030-619-105 US-09-030-619-106 US-09-030-619-24 US-09-030-619-28 US-09-030-619-59 US-09-030-619-102 US-09-030-619-102 US-09-030-619-113 US-09-030-619-111 US-09-030-619-76	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	ī
	US-09-030-619-81	US-09-030-619-80	US-09-030-619-76	-09-030-619	-09-030-619	US-09-030-619-30	US-09-030-619-23	US-09-030-619-82	US-09-030-619-42	US-09-030-619-40	-09-030-619-	US-09-030-619-113	US-09-030-619-78	US-09-030-619-114	US-09-030-619-79	US-09-030-619-102	US-09-030-619-94	US-09-030-619-59	US-09-030-619-58	US-09-030-619-48	-09-030-619	US-09-030-619-106	US-09-030-619-105	-09-030-619-	US-09-030-619-39
3 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Appl	Appl	Appl	Appl	, App	App1	Appl	App1	App1	Appl								Appl							Appı

ALIGNMENTS

US-09-030-619-104

```
APPLICANT: Erfle, Douglas
APPLICANT: Erfle, Douglas
APPLICANT: Fraser, Janet R.
APPLICANT: West, Michael H.P.
APPLICANT: West, Michael H.P.
APPLICANT: West, Michael H.P.
APPLICANT: WONICO, PARTICIA J.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES ALONE
TITLE OF INVENTION: WITH ANTIBIOTICS
FILE REFERENCE: 660081.406
CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 104
LENGTH: 28
                                                                                      RESULT 2
US-09-030-619-50
                                                                                                                                                                            밁
                                                                                                                                                                                                                  Ş
V
                                                                                                                                                                                                                                                                                                                                                 US-09-030-619-104
Sequence 50, Application US/09030619B Patent No. US2002003061A1
GENERAL INFORMATION:
APPLICANT: Krieger, Timothy J.
                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 20; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 104, Application US/09030619B Patent No. US20020035061A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: Cationic Peptide Analogue
                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                4 KWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                        3 RWPWWPWRRK------ILMRWPWWPWRRK 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Krieger, Timothy J.
Taylor, Robert
Erfle, Douglas
Fraser, Janet R.
West, Michael H.P.
                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                              58.7%;
                                                                                                                                                                                                                                                          Score 141.5; DB
Pred. No. 4.8e-11
2; Mismatches
                                                                                                                                                                                                                                                                                                    DB 10;
                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                Length 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALONE OR IN COMBINATION
                                                                                                                                                                                                                                                            11;
                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                          ۲,
```

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; OTHER INFORMATION: US-09-030-619-50
                                                                                                                                                                                  US-09-030-619-52
                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-030-619-69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-030-619-69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                 RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Krieger,
APPLICANT: Taylor,
APPLICANT: Erfle, Do
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: F
SEQ ID NO 69
LENGTH: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 50
SEQ I
GENERAL INFORMATION:
APPLICANT: Krieger
APPLICANT: Taylor,
                                                                                                                  Sequence 52, Application US/09030619B Patent No. US20020035061A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 6
Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: MCNICOL, Patricia J.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES ALC
TITLE OF INVENTION: WITH ANTIBIOTICS
FILE REFERENCE: 660081.406
CURRENT FILING DATE: 198-02-25
CURRENT FILING DATE: 198-02-25
CORRENT SECTION NUMBER: US/09/030,619B
CURRENT FILING DATE: 198-02-25
CORRENT FILING DATE: 198-02-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: West, Michael H.P.
APPLICANT: McNicol, Patricia J.
APPLICANT: McNicol, Patricia J.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES ALONE OR IN COMBINATION
TITLE OF INVENTION: WITH ANTIBLOTICS
FILE REFERENCE: 660081.406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Indolicidin Analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
nes 18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      w
                                                                                                                                                                                                                                                                                                                      1 ILKKWPWWPWRRK-----
                                                                                                                                                                                                                                                                                                                                                                               ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 KWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                                                                                                    ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RWPWWPWRRK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            69, Application US/09030619B
o. US20020035061A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l Similarity
21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fraser, Janet R. West, Michael H.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Taylor, Robert
Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Taylor, Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fraser,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Krieger, Timothy
                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Janet R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indolicidin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----MIL-RWPWWPWRRK 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 57.1%;
61.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 99; DB Pred. No. 3.6e 0; Mismatches
                                                                                                                                                                                                                                                                                                                      -MILKK 18
                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 137.5; DB 10
Pred. No. 1.4e-10;
2; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3.6e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALONE OR IN COMBINATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28;
                                                                                                                                                                                                                                                                                                                                                                                                                                               10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                               1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2;
```

US-09-030-619-95

Sequence 95, Application US/09030619B Patent No. US20020035061A1 GENERAL INFORMATION:

APPLICANT: APPLICANT: APPLICANT:

Krieger, Timothy J. Taylor, Robert Erfle, Douglas RESULT 6

```
DЬ
                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ОÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; OTHER INFORMATION: Indolicidin Analogue US-09-030-619-52
                                                                                                                                             US-09-030-619-51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-030-619-51
                                                                                                                                                                                                                SOFTWARE: Fa
SEQ ID NO 51
LENGTH: 20
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 52
LENGTH: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 51, Application US/09030619B
Patent No. US20020035061A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                    Query Match
Best Local S
                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Erfle, Douglas
APPLICANT: Fraser, Janet R.
APPLICANT: West, Michael H.P.
APPLICANT: West, Michael H.P.
APPLICANT: MCNicol, Patricia J.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES ALONE OR IN COMBINATION
TITLE OF INVENTION: WITH ANTIBIOTICS
FILE REFERENCE: 660081.406
                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
                                                                                                                                                                                                                                                                                                                                             APPLICANT: MCNICOL, PATRICIA J.

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES AL

TITLE OF INVENTION: WITH ANTIBIOTICS
FILE REFERENCE: 660081.406
                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Erfle, Douglas
APPLICANT: Fraser, Janet R.
APPLICANT: West, Michael H.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                               ORGANISM: Artificial Sequence
                                                                                                                                                               OTHER INFORMATION: Indolicidin Analogue
                                                                                                                                                                                    FEATURE:
                                                                      Local Similarity nes 17; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
les 18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ILKKWPWWPWRR-----IMILKK 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
1 ILKKWPWWPWRR-----
                                  1 ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                          FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Taylor, Robert
Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Krieger,
                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Timothy
                                                                                    38.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 98; DB
Pred. No. 4.7e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                        Score 93.5; DB 10 Pred. No. 1.5e-05;
                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .7e-06;
                                                                                                         DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 21;
                                                                                                       Length 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                   ALONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10;
                                                                                                                                                                                                                                                                                                                                                                                     OR.
                                                                                                                                                                                                                                                                                                                                                                                       Ä
                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                       COMBINATION
                                                                      ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1;
```

```
APPLICANT: Taylor, ALMOURLY J.

APPLICANT: Erfle, Douglas

APPLICANT: Fraser, Janet R.

APPLICANT: West, Michael H.P.

APPLICANT: MCNICOL, PATRICLA J.

APPLICANT: MCNICOL, PATRICLA J.

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR

TITLE OF INVENTION: INFECTIONS USING CATIONIC PER

FILE REFERENCE: 660081.406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: MCNICOL, PATRICIA J.

TITLE OF INVENTION: COMPOSITIONS AND METHOD:
TITLE OF INVENTION: INFECTIONS USING CATION:
TITLE OF INVENTION: WITH ANTIBIOTICS
FILE REFERENCE: 660081.406
CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT EILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-030-619-99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                         US-09-030-619-72
                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; OTHER INFORMATION: Cationic Peptide Analogue US-09-030-619-95
                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Cationic Peptide Analogue US-09-030-619-99
                                                     Sequence 72, Application US/09030619B Patent No. US20020035061A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Krieger
APPLICANT: Taylor,
                                                                                                                                                                                                                                                               Best
                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 99
LENGTH: 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: SEQ ID NO 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patent No. US20020035061A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 99,
   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                              FILE REFERENCE: 660081.406

CURRENT APPLICATION NUMBER: US/09/030,619B

CURRENT FILING DATE: 1998-02-25

NUMBER OF SEQ ID NOS: 232
                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 13
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 13
                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 ILKKWPWWPWRRK 13
||||||||||
1 ILKKWPWWPWRRK 13
                                                                                                                                                                                         1 ILKKWPWWPWRRK 13
                                                                                                                                                                             ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                     FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FastSEQ for Windows Version 3.0
Taylor, Robert
Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/09030619B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    West, Michael H.P.
                                   Krieger, Timothy J.
                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                             37.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        37.8%;
                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                             Score 91; DB 10;
Pred. No. 1.9e-0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 91;
Pred. No
                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            METHODS FOR TREATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    METHODS FOR TREATING CATIONIC PEPTIDES ALONE OR IN COMBINATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 10;
                                                                                                                                                                                                                                                               1.9e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.9e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PEPTIDES ALONE OR IN COMBINATION
                                                                                                                                                                                                                                                                             Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 13;
                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                             0,
```

GENERAL INFORMATION:

APPLICANT:
APPLICANT:
APPLICANT:

Krieger, Timothy J. Taylor, Robert Erfle, Douglas

Fraser, Janet R. West, Michael H.P

Sequence 47, Application US/09030619B Patent No. US20020035061A1

```
APPLICANT: Eraser, Janet R.
APPLICANT: West, Michael H.P.
APPLICANT: West, Michael H.P.
APPLICANT: West, Michael H.P.
APPLICANT: MCST, MICHAEL H.P.
APPLICANT: MCST, MICHAEL H.P.
TITLE OF INVENTION: INPECTIONS USING CATION
TITLE OF INVENTION: WITH ANTIBIOTICS
FILE REFERENCE: 660081.406
CURRENT APPLICATION NUMBER: US/09/030,6198
CURRENT APPLICATION NUMBER: US/09/030,6198
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
SOFTWARE: FastSEQ for Wird-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
"~+~hes 13; Conserva
RESULT 10
US-09-030-619-47
                                                                     В
                                                                                                   δÃ
                                                                                                                                                                                                        ; OTHER INFORMATION: Cationic Peptide Analogue US-09-030-619-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: Indolicidin Analogue US-09-030-619-72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-030-619-108
                                                                                                                            Query Match
Best Local Similarity
Matches 13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: West, Michael H.F APPLICANT: MCNIcol, Patricia TITLE OF INVENTION: COMPOSIT TITLE OF INVENTION: WITH ANY FILE REFERENCE: 660081.406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 108, Application US/09030619B Patent No. US20020035061A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE:
SEQ ID NO 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 14
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                                   1 ILKKWPWWPWRRK 13
||||||||||||
1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          West, Michael H.P. McNicol, Patricia J
                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPOSITIONS AND METHODS FOR TREATING INFECTIONS USING CATIONIC PEPTIDES ALONE OR IN COMBINATION WITH ANTIBIOTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              37.8%;
                                                                                                                                                       37.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 91; DB 10; Pred. No. 2e-05;
                                                                                                                                                        Score 91;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                   METHODS FOR TREATING
CATIONIC PEPTIDES ALONE OR IN COMBINATION
                                                                                                                                                       DB 10;
2e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 14;
                                                                                                                                                                       Length 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                        Indels
                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
```

```
SOFTWARE: FastSEQ for Windows V
SEQ ID NO 47
LENGTH: 21
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                              RESULT 12
US-09-030-619-112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-030-619-67; Sequence 67, Application US/09030619B; Patent No. US20020035061A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
"hes 15; Conserv?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; OTHER INFORMATION: Indolicidin Analogue US-09-030-619-47
                                                         GENERAL INFORMATION:
APPLICANT: Krieger
APPLICANT: Taylor,
APPLICANT: Erfle, I
                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                          ; OTHER INFORMATION: Indolicidin Analogue US-09-030-619-67
                                                                                                                              sequence 112, Application US/09030619B
Patent No. US20020035061A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 67
LENGTH: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: McNicol, Patricia J.

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES ALONE OR IN COMBINATION
TITLE OF INVENTION: WITH ANTIBIOTICS
FILE REFERENCE: 660081.406
CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: West, Michael H.P.
APPLICANT: West, Michael H.P.
APPLICANT: MCNICOL, Pattricia J.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES ALONE OR IN COMBINATION
TITLE OF INVENTION: WITH ANTIBIOTICS
FILE REFERENCE: 660081.406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
                           APPLICANT:
                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                      Local Similarity hes 12; Conserv
                                                                                                                                                                                                                                 1 LKKWPWWPWRRK 12
                                                                                                                                                                                                                                                     2 LKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 RWPWWPWRRK-----IMILKK 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KWPWWPWRRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Taylor, Robert
Erfle, Douglas
       Fraser, Janet R. West, Michael H.P. McNicol, Patricia J.
                                                       Krieger, Timothy J. Taylor, Robert Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Krieger, Timothy J.
                                                                                                                                                                                                                                                                                                36.1%;
ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               36.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 87.5; D
Pred. No. 8.1e
1; Mismatches
                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                      Score 87; Pred. No.
                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                      DB 10; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    le-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                      Length 12;
                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9;
                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.
                                                                                                                                                                                                                                                                                                       0,
```

```
PILEANT: West, Michael H.P.

APPLICANT: West, Michael H.P.

APPLICANT: MCNICOL, PARTICIA J.

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING

TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES ALONE OR I.

TITLE OF INVENTION: WITH ANTIBIOTICS

FILE REFERENCE: 66081.406

CURRENT APPLICATION NUMBER: US/09/030,619B

CURRENT FILING DATE: 1998-02-25

NUMBER OF SEQ ID NO 53

LENGTH: 13

TYPE: por
                                                                                                                 RESULT 14

US-09-030-619-107

; Sequence 107, Application US/09030619B

; Patent No. US20020035061A1
                                                                                                                                                                                                     д
                                                                                                                                                                                                                                                                                                                       US-09-030-619-53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-030-619-53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  us-09-030-619-112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Fa
SEQ ID NO 112
LENGTH: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loc
Matches
                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 12; Conserv
                                                       APPLICANT:
APPLICANT:
                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: 660081.406
CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
TITLE OF INVENTION:
                APPLICANT:
                                                                                                                                                                                                                                                                                                                                    FEATURE:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Cationic Peptide Analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity les 12; Conserv
                                                                                                                                                                                                                              1 ILKKWPWWPWRR 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ILKKWPWWPWRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 ILKKWPWWPWRR 12
                                                                                                                                                                                                     1 ILKKWPWWPWRR 12
 INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FastSEQ for Windows Version 3.0
Fraser, Janet R.
West, Michael H.P.
McNicol, Patricia J.
WENTION: COMPOSITIONS AND
                                                       Krieger, Timothy J.
Taylor, Robert
Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       35.7%;
ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12
                                                                                                                                                                                                                                                                                                                                    Indolicidin Analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPOSITIONS AND METHODS FOR TREATING INFECTIONS USING CATIONIC PEPTIDES ALONE OR IN COMBINATION WITH ANTIBIOTICS
                                                                                                                                                                                                                                                                           35.7%;
100.0%;
                                                                                                                                                                                                                                                                           Score 86; pred. No.
                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 86;
Pred. No.
                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                               ŏ.
   METHODS
                                                                                                                                                                                                                                                                            DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 10; 1 6.7e-05;
                                                                                                                                                                                                                                                                            .3e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 12;
                                                                                                                                                                                                                                                                                        Length 13;
                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OR
R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
```

```
APPLICANT: Taylor, Timothy J.
APPLICANT: Taylor, Robert
APPLICANT: Erfle, Douglas
APPLICANT: Fraser, Janet R.
APPLICANT: West, Michael H.P.
APPLICANT: West, Michael H.P.
APPLICANT: McNicol, Patricia J.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES ALONE
TITLE OF INVENTION: WITH ANTIBIOTICS
FILE REFERENCE: 660081.406
CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 109
LENGTH: 13
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/030,619B
CURRENT FILING DATE: 1998-02-25
NUMBER OF SEQ ID NOS: 232
SOFTMARE: FastSEQ for Windows Version 3.0
SEQ ID NO 107
SEQ ID NO 107
CENCTH: 13
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
Search completed: December 11, 2002, 15:43:29 Job time : 11 secs
                                                                                      밁
                                                                                                                       ρy
                                                                                                                                                                                                                                                    ; OTHER INFORMATION: Cationic Peptide Analogue US-09-030-619-109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
US-09-030-619-109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; OTHER INFORMATION: Cationic Peptide Analogue US-09-030-619-107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 35.7%;
Best Local Similarity 41.9%;
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 109, Application US/09030619B Patent No. US20020035061A1
                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                     Best Local
                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: INFECTIONS USING CATIONIC PEPTIDES ALONE OR IN COMBINATION TITLE OF INVENTION: WITH ANTIBIOTICS FILE REFERENCE: 660081.406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 WW-----KKWPWWPWRK 13
                                                                                                     1 ILKKWPWWPWRR 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7 WWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                  ILKKWPWWPWRR 12
                                                                                                                                                                    12;
                                                                                                                                                                                   Similarity
                                                                                                                                                                35.7%; Sonilarity 100.0%; For Conservative 0;
                                                                                                                                                              Score 86; DB 10; L
;; Pred. No. 7.3e-05;
...-matches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 86; DB 10;
Pred. No. 7.3e-05;
0; Mismatches (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATIONIC PEPTIDES ALONE OR IN COMBINATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                       Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18;
                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.
                                                                                                                                                                  0;
```

THIS PAGE BLANK (USPTO)

```
Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          on:
       Pred. No. score grea and is der
                                                                                                                                                                                                                                                                                                                                                                                                                                                              133
99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                            91
91
91
91
91
91
87.5
87
86
86
86
86
86
85.5
                                                                                                                                                                                                                                                                                                                                                                                                       93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/
2: /cgn2_6/ptodata/1/
3: /cgn2_6/ptodata/1/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-444-281-35-27-35
241
1 ILKKWPWWPWRRKHEAFPFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     December 11, 2002, 15:37:49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5 : 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       262574 segs, 29422922 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BLOSUM62
   337.88
337.88
337.88
355.37.88
355.37.88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ILKKWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                        DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gapext 0.5
US-09-099-631A-12
US-08-702-054B-38
US-08-915-314-56
US-08-915-314-63
US-08-915-314-63
US-08-915-314-63
US-08-915-314-63
US-08-915-314-57
US-08-915-314-57
US-08-915-314-52
US-08-915-314-52
US-08-915-314-52
US-08-915-314-52
US-08-915-314-52
US-08-915-314-52
US-08-915-314-51
US-08-915-314-51
US-08-915-314-59
US-08-915-314-59
US-08-915-314-59
US-08-915-314-59
US-08-915-314-69
US-08-915-314-69
US-08-915-314-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Search time 15 Seconds
(without alignments)
72.577 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    262574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
Sequence
                                                                                                                                                                                                                   Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                         Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                             Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
312, Appl

56, Appl

56, Appl

56, Appl

62, Appl

62, Appl

63, Appl

64, Appl

57, Appl

46, Appl

57, Appl

57, Appl

57, Appl

58, Appl

59, Appl

50, Appl

50, Appl

51, Appl

51, Appl

52, Appl

53, Appl

54, Appl

55, Appl

56, Appl

57, Appl

58, Appl

59, Appl

59, Appl

59, Appl

50, Appl

50, Appl

50, Appl

51, A
```

RESULT 2 US-08-702-054B-38 ; Sequence 38, Application US/08702054B ; Patent No. 6191254 ; GENERAL INFORMATION: APPLICANT: Falls, Timothy J. APPLICANT: Hancock, Robert E. W. APPLICANT: GOUGH, MONISHA : APPLICANT: GOUGH, MONISHA : TITLE OF INVENTION: ANTIMICROBIAL CATIONIC TITLE OF INVENTION: AND METHODS OF SCREENIN : NUMBER OF SEQUENCES: 44 ; CORRESPONDENCE ADDRESS: ADDRESSEE: Fish & Richardson P.C. STREET: 4225 Executive Square, Suite 1400 CITY: La Jolla STATE: CA COUNTRY: USA ZIP: 9237 COMPUTER READABLE FORM: MEDIUM TYPE: Diskette	Qy 4 KWPWWPWRRKHEAEPEAEPINILK-KWPWWPWRR 36	Query Match 55.4%; Score 133.5; D Best Local Similarity 64.7%; Pred. No. 2.9e-Matches 22; Conservative 0; Mismatches	RESULT 1 US-09-099-631A-12 Sequence 12, Application US/09099631A Patent No. 6444645 GENERAL INFORMATION: APPLICANT: Selsted, Michael E. APPLICANT: Osapay, Klara TITLE OF INVENTION: Crosslink-Stabilized Indo FILE REFERENCE: p-UC 3050 CURRENT APPLICATION NUMBER: US/09/099,631A CURRENT FILING DATE: 1998-06-18 NUMBER OF SED ID NOS: 13 SOFTWARE: PatentIn Ver. 2.1 SEQ ID NO 12 LENGTH: 63 TYPE: PRT ORGANISM: Artificial Sequence FEATURE: OTHER INFORMATION: Description of Artificial US-09-099-631A-12	ALIGNMENTS	28 83.5 34.6 15 4 US-08-702-054B-3 29 83 34.4 12 4 US-08-915-314-24 30 83 34.4 13 4 US-08-915-314-50 31 83 34.4 13 4 US-08-915-314-50 32 83 34.4 13 4 US-08-702-054B-3 33 83 34.4 13 4 US-08-702-054B-3 34 83 34.4 13 4 US-08-702-054B-3 35 84 34.4 13 4 US-08-915-314-58 37 82 34.0 13 4 US-08-915-314-58 38 82 34.0 13 4 US-08-915-314-58 39 82 34.0 13 4 US-08-915-314-58 39 82 34.0 13 4 US-08-915-314-58 39 82 34.0 13 4 US-08-915-314-58 40 82 34.0 13 4 US-08-915-314-58 41 81 33.6 11 4 US-08-915-314-58 42 80 33.2 14 4 US-08-702-054B-3 43 80 33.2 15 4 US-08-702-054B-1 44 80 33.2 15 4 US-08-702-054B-1 45 79 32.8 17 4 US-08-702-054B-1
CATIC SCRE	ω ω	3.5; . 2.9e tches	zed In 631A	GNMENTS	702- 915- 915- 702- 702- 915- 915- 915- 915- 915- 702- 702- 702- 702-

2

```
RESULT 3
US-08-915-314-54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-702-054B-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 54, Patent No. 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 16;
                                 TELEFAX: (206) 682-60 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO:
                 SEQUENCE CHARACTERISTICS:
                                                                 REFERENCE/DOCKET NUMBER: 66
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
                                                                                                              APPLICATION NUMBER: US/08/915,314
FILING DATE: 20-AUG-1997
CLASSIFICATION: 424
ATTORNEY/ACENT INFORMATION:
NAME: No. 6180604tenburg Ph.D., Carol
REGISTRATION NUMBER: 39,317
BEFERENT/DOCUMENTUMER: 39,317
                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: COMPOSITIONS AND TITLE OF INVENTION: INFECTIONS USING NUMBER OF SEQUENCES: 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: 1i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/0
FILING DATE: 23-AUG-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: 619/678-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: FastSEQ for Windows Version 2.0b CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                        STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: FILING DATE: 23-AUC
 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Haile, Lisa A. REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ILKKWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ILKKWPW-----WPWWPWRRK 16
                                                                                                                                                                                                                                                                                                                            98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4, Application US/08915314 6180604
                                                                                                                                                                                                                                                                                                                                                                            Seattle
                                                                                                                                                                                                                                                                                                                                                       Washington
                                                                                                                                                                                                                                                                                                                                                                                       E: SEED and BERRY LLP 6300 Columbia Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16 amino acids
21 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       619/678-5099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Taylor, Robert
Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Krieger, Timothy J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fraser, Janet R. West, Michael H.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-AUG-1996
                             6) 02-
682-6031
NO: 54:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Windows 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60/002,687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    38,347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/702,054B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38:
                                                                                                    660081.405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07420/013001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 99.5; DB 4;
Pred. No. 1.2e-06;
                                                                                                                                                                                                                                                                                                                                                                                        701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                        METHODS FOR TREATING
ANALOGUES OF INDOLICIDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ۲,
```

```
US-08-915-314-55
                  RESULT 5
                                                                밁
                                                                                                                                                                                           US-08-915-314-56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-915-314-56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-915-314-54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 4
                                                                                                                          Query Match
Best Local S
Matches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 56,
                                                                                                                                                                                                                                                                                    TELEPHONE: (206) 622-4900
TELEFAX: (206) 682-6031
INFORMATION FOR SEQ ID NO: 56:
                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/915,314
FILING DATE: 20-AUG-1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 66
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION: NAME: No. 6180604tenburg Ph.D., Carol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING TITLE OF INVENTION: INFECTIONS USING ANALOGUES OF INDOLICIDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
CITY: S
                                                                                                                            Local Similarity
les 18; Conserv
                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
nes 18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS:
TOPOLOGY: li
                                                                                                                                                                                                                                                      LENGTH:
                                                              1 ILKKWPWWPWRR-----IMILKK 18
                                                                                           1 ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ILKKWPWWPWRRK------MILKK 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6, Application US/08915314 6180604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98104
                                                                                                                                                                                                                                    amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seattle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EE: SEED and BERRY LLP 6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                                                                                      21 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Krieger, Timothy J.
Taylor, Robert
Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fraser, Janet R. West, Michael H.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41.1%;
64.3%;
                                                                                                                                           40.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                              US/08/915,314
                                                                                                                                                                                                                                                                                                                                                               39,317
                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                 660081.405
                                                                                                                                         Score 98; DB 4;
Pred. No. 2.5e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 99;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .9e-06;
                                                                                                                                                        Length 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                          10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10;
                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
```

Sequence 55, Application US/08915314
Patent No. 6180604
GENERAL INFORMATION:
APPLICANT: Fraser, Janet R.
APPLICANT: West, Michael H.P.

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-915-314-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DALL.

CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: NO. 6180604tenburg Ph.D., Carol
REGISTRATION NUMBER: 39,317
REFERENCE/DOCKET NUMBER: 660081.405
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 108076031
                                                                                                                                                                                                                                                                                                                                                                                               Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 30,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (206) 682-6031 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: U.I.
STREET: Seattle
CITY: Seattle
"MATE: Washington
"YSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 90
CORRESPONDENCE ADDRESS:
ADDRESSEE: SEED and BERRY LLP
                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/915,314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                    TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING TITLE OF INVENTION: INFECTIONS USING ANALOGUES OF INDOLIC NUMBER OF SEQUENCES: 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: CÓMPOSITIONS AND METHODS FOR TREATING TITLE OF INVENTION: INFECTIONS USING ANALOGUES OF INDOLICIDIN
                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                       STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/0 FILING DATE: 20-AUG-1997
                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH:
 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 ILKKWPWWPWRR-----MILKK 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ILKKWPWWPWRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           l Similarity
17; Conserv
                                                                                                                      98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98104
                                                                                                                                                                     Seattle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                 Washington
                                                                                                                                                                                                                                                                                                                                                                                                                 Application US/08915314
                                                                                                                                                                                     6300 Columbia Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                     USA
                                                                                                                                                                                                                                                                                          Krieger, Timothy J.
Taylor, Robert
Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                            West, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Taylor, Robert
Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Krieger, Timothy J.
                                                                                                                                                                                                                                                                                                                                                              Fraser,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                     SEED and BERRY LLP
                                                                                                                                                                                                                                                                                                                                                                Janet R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          38.8%;
60.7%;
US/08/915,314
                                                                                                                                                                                                                                                                                                                                                H.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 93.5; DB 4;
Pred. No. 8.8e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                   701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 4;
                                                                                                                                                                                                                                                        OF INDOLICIDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ۲,
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-915-314-62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-915-314-30
; OTHER INFORMATION: /note= "D-Form of Isoleucine" US-08-915-314-62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loc
Matches
                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Veron Compation Compation Number: US/08/915,314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 62,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                            TELEFAX: (206) 682-6031 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (206) 682-6031 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/915,314
FILING DATE: 20-AUG-1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: NO. 6180604 tenburg ph.D., Carol
REGISTRATION NUMBER: 39,317
REFERENCE/DOCKET NUMBER: 660081.405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: No. 6180604 tenburg Ph.D.,
REGISTRATION NUMBER: 39,317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: SEED and BERRY LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 66
TELECOMMUNICATION INFORMATION:
                                                               FEATURE:
                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING TITLE OF INVENTION: INFECTIONS USING ANALOGUES OF INDOLICIDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: West, Michael H.P. APPLICANT: Krieger, Timothy J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                               NAME/KEY:
LOCATION:
                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 6300 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
nes 13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                STRANDEDNESS:
                                                                                                                                                                                             TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                  98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/08915314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Krieger, Timoth
Taylor, Robert
Erfle, Douglas
                                                                                                                               13 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fraser,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                              Modified-site
                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                               (206)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Janet R.
                                                                                                                                                                                               622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  37.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 91;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660081.405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Carol
                                                                                                                                                                                                                                                                                                                                                               Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.1e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
```

0;

```
망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-915-314-63
                                                                     US-08-915-314-64
                                                                                                                                        В
                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                                           US-08-915-314-63
                                                                                      RESULT 9
                   Sequence 64, Application US/08915314 Patent No. 6180604 GENERAL INFORMATION:
                                                                                                                                                                                                        Query Match
Best Local S
Matches 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/915,314
FILING DATE: 20-AUG-1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: NO. 6180604tenburg Ph.D., Carol
REGISTRATION NUMBER: 39,317
REFERENCE/DOCKET NUMBER: 660081.405
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (206) 682-6031 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING TITLE OF INVENTION: INFECTIONS USING ANALOGUES OF INDOLICIDIN NUMBER OF SEQUENCES: 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Krieger, Timothy J. APPLICANT: Taylor, Robert APPLICANT: Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS
APPLICANT: Fraser, Janet R.
                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET:
                                                                                                                                                                                                                                                                                                           NAME/KEY: Modified-site LOCATION: 13
                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                                                                                                                                                                                                                                             OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 ILKKWPWWPWRRK 13
                                                                                                                                                                          1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63, Application US/08915314
o. 6180604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 Similarity
13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seattle
                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6300 Columbia Center,
                                                                                                                                                                                                                                                                                                                                                                                                             13 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 37.8%; Score 91; ilarity 100.0%; Pred. No. Conservative 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fraser, Janet R. West, Michael H.P.
                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEED and BERRY LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Floppy disk
                                                                                                                                                                                                           37.8%; Score 91; DB 4; 100.0%; Pred. No. 1.1e-
tive 0; Mismatches
                                                                                                                                                                                                                                                                                             /note= "D-Form of Lysine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                    63:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 4;
                                                                                                                                                                                                           1.1e-05;
hes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.1e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 13;
                                                                                                                                                                                                                                           Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                             0;
```

```
RESULT 10
US-09-042-071-36
                                                                                                                                                                                                                                                            sequence 36, Application US/09042071
Patent No. 6294372
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (206) 682-603
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPOTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Krieger, Timothy J. APPLICANT: Taylor, Robert APPLICANT: Erfle, Douglas
                                                                                                                                                        APPLICANT: Burian, Jan
APPLICANT: Kay, William W.
TITLE OF INVENTION: REPLICATION GENES AND GENE PRODUCTS FROM
TITLE OF INVENTION: SMALL CRYPTIC PLASMIDS AND METHODS FOR CONSTRUCTING
TITLE OF INVENTION: CONTROLLED-REPLICATION PLASMID VECTORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: NO. 6180604 tenburg Ph.D., Carol
REGISTRATION NUMBER: 39,317
REFERENCE/DOCKET NUMBER: 660081.405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING TITLE OF INVENTION: INFECTIONS USING ANALOGUES OF INDOLICIDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION: (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                NUMBER OF SEQUENCES:
                                                        STREET: ... Seattle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/915,314
FILING DATE: 20-AUG-1997
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 6300 ColurCITY: Seattle.
STATE: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: Modified-site
LOCATION: 13
OTHER INFORMATION: /note= "D-Form of Lysine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity es 13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
                                                      STATE:
                                  COUNTRY:
                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ILKKWPWWPWRRK 13
98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino acid
                                                    Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6300 Columbia Center, 701 Fifth Avenue
                                                                                          6300 Columbia Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  West, Michael H.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                            SEED and BERRY LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEED and BERRY LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                682-6031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  37.8%; Score 91; DB 4; 100.0%; Pred. No. 1.1e-(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "D-Form of Isoleucine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                            701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
```

В QΥ

0

COMPUTER READABLE FORM:

MEDIUM TYPE:

Floppy disk

COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS

PatentIn Release #1.0, Version #1.30

SOFTWARE:

```
Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-915-314-57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-042-071-36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO: 36
SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 57, Application US/08915314 Patent No. 6180604 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                        APPLICATION NUMBER: US/08/915,314
FILING DATE: 20-AUG-1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: NO. 6180604tenburg Ph.D., Carol
REGISTRATION NUMBER: 39,317
REFERENCE/DOCKET NUMBER: 660081.405
TELEPHONE: (206) 622-4900
TELEPHONE: (206) 622-4900
TELEFAX: (206) 682-6031
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: 1
                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Taylor, Robert
APPLICANT: Erfle, Douglas
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING ANALOGUES OF INDOLICIDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 33,963
REFERENCE/DOCKET NUMBER: 660
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: McMasters, David D.
REGISTRATION NUMBER: 33,9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/0 FILING DATE: 13-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tch 37.8%; So al Similarity 100.0%; I al Similarity 00; I al 3; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                      98104
                                                                                                                                                                                                                                                                                                                                                                                                            Seattle
                                                                                                                                                                                                                                                                                                                                                                                      Washington
                                                                                                                                                                                                                                                                                                                                                                                                                            6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fraser, Janet R.
West, Michael H.P.
                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Krieger, Timothy J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEED and BERRY LLP
                                                                                                                                                                                        NUMBER: US/08/915,314
20-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US/09/042,071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 91; DB 4;
Pred. No. 1.1e-
                                                                                                  660081.405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                660081.407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .1e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
```

```
RESULT 13
US-08-915-314-46
                                                                                                                                                В
                                                                                                                                                                             Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TOPOLOGY: US-08-915-314-57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 12
US-08-702-054B-40
                                                                                                                                                                                                                                                                          US-08-702-054B-40
                                                Sequence 46, Appli
Patent No. 6180604
                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 40, Application US/08702054B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
GENERAL INFORMATION:
APPLICANT: Fraser,
APPLICANT: West, N
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/702.05

FILING DATE: 23-AUG-1996

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/002,687

FILING DATE: 23-AUG-1995

ATTORNEY/AGENT INFORMATION:
NAME: Halle, Lisa A.
REGISTRATION NUMBER: 38,347

REGISTRATION NUMBER: 38,347
                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 619/678-5099 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 15 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: Windows 95
SOFTWARE: FastSEQ for Windows Version 2.0b
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                 TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 422.
STREET: 422.
CITY: La Jolla
CMATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION: TELEPHONE: 619/678-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: ANTIMICROBIAL CATIONIC PEPTIDES TITLE OF INVENTION: AND METHODS OF SCREENING FOR THI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Falls, TAPPLICANT: Hancock,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
les 13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 ILKKWPWWPWRRK 13
                                                                                                                                                                             1 ILKKWPWWPWRRKHEAEPEAEPIMILKKWPWW 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                                                                                              1 ILKKWPWWPWRR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6191254
                                                              Application US/08915314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3E: Fish & Richardson P.C.
4225 Executive Square, Suite 1400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Falls, Timothy J. Hancock, Robert E. W.
                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gough, Monisha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Diskette
                                                                                                                                                                                                                          36.9%;
43.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US/08/702,054B
                                                                                                                                                                                                                                                                                                                                                                       40:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 91;
Pred. No.
                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                    07420/013001
                                                                                                                                                                                                                          Score 89; I
Pred. No. 2
                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                              -WW 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 4; I
. 1.2e-05;
                                                                                                                                                                                                                                            DB 4;
                                                                                                                                                                                                                            .4e-05
                                                                                                                                                                                                                                       Length 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                             18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,:
                                                                                                                                                                                                          1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
US-08-915-314-52; Sequence 52, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                γ
                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 52, Applicat Patent No. 6180604
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (206) 682-60: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/915,314
                                                                                                                                                                                                                                                                                           APPLICANT: Fraser, Janet R.
APPLICANT: West, Michael H.P.
APPLICANT: Krieger, Timothy J.
APPLICANT: Taylor, Robert
APPLICANT: Erfle, Douglas
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING ANALOGUES OF INDOLICIDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08/915,314
FILING DATE: 20-AUG-1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: No. 6180604tenburg Ph.D., Carol
REGISTRATION NUMBER: 39,317
REGISTRATION NUMBER: 39,317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 66
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: SEED and BERRY LLP
                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: COMPOSITIONS AND TITLE OF INVENTION: INFECTIONS USING
                                                                                                                                                                                 STATE:
                                                                                                                                                                                                   CITY: Seattle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
mes 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Seattle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET:
                                                                                                                                            ZIP: 98104
                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                      STREET:
                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 KWPWWPWRRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 RWPWWPWRRK-----IMILKK 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2, Application US/08915314 6180604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Washington
                                                                                                                                                                             Washington
                                                                                                                                                                                                                      6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Erfle, Douglas
                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Taylor, Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                            SEED and BERRY LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                682-6031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 87.5; DB 4; Length 21; Pred. No. 5.2e-05; 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660081.405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  METHODS FOR TREATING
ANALOGUES OF INDOLICIDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ļ.
```

```
Query Match
Best Local Similarity
~+~hes 12; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
US-08-915-314-74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-915-314-52
                                                                                     US-08-915-314-74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No. 6180604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 74, Application US/08915314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (206) 682-6031 INFORMATION FOR SEQ ID NO: 52:
                                                                                                                                                                                     INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/915,314
FILING DATE: 20-AUG-1997
CLASSIFICATION: 424
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Fraser, Janet R. APPLICANT: West, Michael H.P. APPLICANT: Krieger, Timothy J APPLICANT: Taylor, Robert APPLICANT: Erfle, Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: No. 6180604tenburg Ph.D., Carol
REGISTRATION NUMBER: 39,317
                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: No. 6180604tenburg Ph.D., Carol
REGISTRATION NUMBER: 39,317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Krieger, Timothy J.
APPLICANT: Taylor, Robert
APPLICANT: Erfle, Douglas
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING
TITLE OF INVENTION: INFECTIONS USING ANALOGUES OF INDOLICIDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 66
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION: TELEPHONE: (206) 622-4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 6300 CCITY: Seattle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 20 CLASSIFICATION:
                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                        TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
TOPOLOGY: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                        TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 LKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LKKWPWWPWRRK 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     amino acid
                                                                                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6300 Columbia Center, 701 Fifth Avenue
                                                                                                                                                                                     (206) 682-6031
(207) TD NO: 74:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEED and BERRY LLP
                                                                                                                                                                                                                            (206)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36.1%; 5cc
100.0%; Pro
            35.,...
100.0%; F1
                                                                                                                                                                                                                          622-4900
                35.7%; Score 86; DB 4; L
100.0%; Pred. No. 4.5e-05;
live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 87;
Pred. No.
                                                                                                                                                                                                                                                              660081.405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660081.405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 4; L
                                                Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                   0;
                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                   0;
```

Search completed: December 11, 2002, 15:39:59 Job time : 16 secs Дb Qy 1 ILKKWPWWPWRR 12 |||||||||||||| 1 ILKKWPWWPWRR 12

THIS PAGE BLANK (USPTO)

GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd

```
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             908470 seqs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-444-281-35-27-35
241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    December 11, 2002, 15:34:29; search time 35 seconds (without alignments) 140.865 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gapop 10.0 , Gapext 0.5
           10:
111:
12:
13:
14:
15:
16:
17:
18:
19:
20:
21:
                                                                                                                                         /SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1986.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1987.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1987.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1988.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1990.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1991.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1991.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1992.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1994.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1995.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1997.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1997.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1997.DAT: *
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1997.DAT: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ILKKWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Geneseq_101002:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
/SIDS2/gcgdata/geneseg/geneseqp-emb1/AA1998.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1999.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2001.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2002.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       908470
```

and is derived by analysis of the total score distribution. score greater than Pred. No. is the number of results predicted by chance ater than or equal to the score of the result being printed,

SUMMARIES

		,			1	ļ
Indolicidin analog	AAY24570	19	20		93.5	10
Amino acid sequenc	AAY91808	21	21		86	9
Indolicidin analog	AAY24571	19	21		98	80
Amino acid sequenc	AAY91806	21	21		99	7
Indolicidin analog	AAY24582	19	21		99	σ
Antimicrobial cati	AAW12899	18	16		99.5	₅
Indolicidin fusion	AAY57142	21	63		133.5	4
Poly~(Indol (1-13)	AAY44668	21	63		133.5	ω
Indolicidin analog	AAW66363	19	27		137.5	N
Amino acid sequenc	AAY91800	21	28	58.7	141.5	_
Description	ID	DB	Query Match Length DB	Query Match	Score	Result No.

Antimicrobial cati	AAW27179	18	13	•	85	45
sequen	AAY91828	21	12	•	85	44
Indolicidin analog	AAY24586	19	12	•	85	43
w	m	18	16	•	85.5	42
Amino acid sequenc	\sim	21	14	•	86	41
_	AAY24573	19	14	•	86	40
Amino acid sequenc	AAY91812	21	13	35.7	86	39
S	m	21	13	•	86	38
	t n	19	13	•	86	37
Indolicidin analog	46	19	13	•	86	36
icrobi	AAW12896	18	13	•	86	3 5
Amino acid sequenc	AAY91833	21	12	•	86	34
nalo	AAY24615	19	12	•	86	ω ω
۳.	AAW12877	18	12	35.7	86	32
Amino acid sequenc	AAY91804	21	12	•	87	31
Indolicidin analog	AAY24580	19	12	36.1	87	30
id s	AAY91796	21	21		7.	29
Cationic peptide o	AAW66376	19	21			28
nalo	AAY24552	19	21	•	.7	27
Antimicrobial cati	AAW13802	18	15		89	26
S C	AAY91811	21	14	•	91	25
icid	AAY24583	19	14	•	91	24
an	ABB81254	23	13	•	91	23
	AAY91820	21	13	37.8	91	22
acid s	AAY91819	21	13		91	21
acid s	AAY91818	21	13	•	91	20
acid	AAY91774	21	13	•	91	19
cid:	7	21	13	•	91	18
cidin analo	9	21	13		91	17
-11 pept	AAY94495	21	13	•	91	16
peptide	169	19	13		91	15
Cationic peptide o	AAW66378	19	13		91	14
nalo	0	19	13	•	91	13
Antimicrobial cati	28	18	13	37.8	. ص	12
יי איניקי	AAV91807	ა 1	3 0	2 2 2	ر د د د	1

ALIGNMENTS

RESULT 1 AAY91800 Amino acid sequence of cationic peptide MBI 11B20CN 06-JUN-2000 (first entry) AAY91800; AAY91800 standard; Peptide; 28 A

Cationic peptide; tumour; pharmaceutical composition; cancer; treatment; leukaemia; polyoxyalkylene-modified; APO; lymphoma; multiple myeloma; breast; lung; ovary; cervix; uterus; skin; prostate; liver; colon; multidrug resistance

Synthetic.

W09965506-A2

23-DEC-1999

14-JUN-1999; 99WO-CA00552

12-JUN-1998; 98US-0096541.

(MICR-) MICROLOGIX BIOTECH INC.

Friedland HD, Krieger TJ, Taylor R, Erfle D, Fraser JR,

West MHP;

WPI; 2000-223549/19.

Novel pharmaceutical composition containing optionally activated polyoxyalkylene-modified cationic peptides, useful for treating tumours

2;

```
RESULT 2
AAW66363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SXXCCCCCCCCX PX XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                  25-FEB-1998;
10-MAR-1997;
20-AUG-1997;
26-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           can be used in the pharmaceutical composition of the invention. The invention relates to a pharmaceutical composition containing at least one activated polyoxyalkylene (APO)-modified cationic peptide. The modification of peptides with APO increases their activity against tumour cells, including those with a multidrug resistant phenotype. The pharmaceutical composition can be used to treat tumours, specifically lymphoma, leukaemia, multiple myeloma, or tumours of breast, lung, ovary, cervix, uterus, skin, prostate, liver and colon.
peptides
•
                     The present sequence represents an indolicidin analogue. The present invention describes compositions and methods for treating infection, especially bacterial infections. The compositions and methods use cationic peptides in combination with an antibiotic agent which are then administered to a patient to enhance the activity of the antibiotic agent, to overcome: (a) tolerance; (b) acquired resistance; and (c) finherent resistance. The combinations of antibiotics and cationic
                                                                                                                                Claim 1; Page 91; 105pp; English.
                                                                                                                                                            New indolicidin peptide analogues - useful for, activity of antibiotic or overcoming tolerance, or inherent resistance of microorganisms
                                                                                                                                                                                                                     WPI;
                                                                                                                                                                                                                                               Fraser JR, McNicol
                                                                                                                                                                                                                                                                                                                                                                          10-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                    17-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                               WO9840401-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bacterial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAW66363;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW66363 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim
                                                                                                                                                                                                                                                                          (MICR-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indolicidin analogue; resistance; cationic peptide; antibiotic;
bacterial infection; tolerance; antibacterial; microorganism;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indolicidin analogue MBI 11B20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 KWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                     1998-520800/44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RWPWWPWRK------ILMRWPWWPWRKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                         MICROLOGIX BIOTECH INC.
           can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fungus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
           provide synergistic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĀΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         represents a cationic peptide amino acid sequence,
                                                                                                                                                                                                                                                                                                    98US-0030619.
97US-0040649.
97US-0915314.
97US-0060099.
                                                                                                                                                                                                                                                                                                                                                                         98WO-CA00190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 parasite; virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   94pp; English.
                                                                                                                                                                                                                                               PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58.7%;
                                                                                                                                                                                                                                               West MHP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 141.5;
Pred. No. 3.66
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
           activity against a microorganism that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .6e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ۲,
                                                                                                                                                                         e.g. enhancing acquired resis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                           resistance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1;
```

```
RESULT 3
AAY44668
ID AAY4
 Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 × 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Crosslinked indolicidin analog; X-indolicidin; poly-Indol 1-13; stability; bovine neutrophil; antimicrobial; antibacterial; fungicide; protozoacide; virucide; anti-HIV; human immunodeficiency virus-1;
WPI; 2000-147133/13
                    Selsted ME,
                                                                                                                                                    Region
                                                                                                                                                                                                                                      Cleavage-site
                                                                                                                                                                                                                                                          Cleavage-site
                                                                                                                                                                                                                                                                              Cleavage-site
                                                                                                                                                                                                                                                                                                  Cleavage-site
                                                                                                                                                                                                                                                                                                                      Cleavage-site
                                                                                                                                                                                                                                                                                                                                          Cleavage-site
                                                                                                                                                                                                                                                                                                                                                                         Key
                                                                                                                                                                                                                                                                                                                                                                                                                                   HIV-1; gram positive bacteria; gram negative; Staphylococcus aureus; Escherichia coli; Salmonella typhimurium; yeast; fungi; protozoa; Candida albicans; Cryptococcus neoformans; Giardia; Acanthamoeba;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY44668 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    is tolerant, inherently resistant, or has acquired resistance antibiotic agent. They can be used for killing e.g. bacteria,
                                                             18-JUN-1998;
                                                                                20-MAY-1999;
                                                                                                    23-DEC-1999.
                                                                                                                       WO9965510-A1.
                                                                                                                                                                         Region
                                                                                                                                                                                             Region
                                                                                                                                                                                                                 Cleavage-site
                                                                                                                                                                                                                                                                                                                                                               Region
                                                                                                                                                                                                                                                                                                                                                                                             Bos
                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                           hexapeptide spacer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Poly-(Indol (1-13)-Met-Ala-Arg-Ile-Ala-Met)3 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAY44668;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            parasites and viruses.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 RWPWWPWRRK------MIL-RWPWWPWRRK 25
                                                                                                                                                                                                                                                                                                                                                                                             sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                       _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21;
                                       UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                   Osapay K;
                                        CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ΑĄ;
                                                           98US-0099631
                                                                                99WO-US11165
                                                                                                                                                                                                                                                                                                   /label=
20..21
                                                                                                                                                      58..
                                                                                                                                                                                                                58..59
                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                            /label=
                                                                                                                                                                                                                                                                                                                               /label=
                                                                                                                                                                                                                                                                                                                                                    /label=
                                                                                                                                                                                  'label=
                                                                                                                                                                                                       'label=
                                                                                                                                                                                                                           /label=
                                                                                                                                                                                                                                               'label=
                                                                                                                                                                                                                                                                                        /label=
                                                                                                                                                               'label=
                                                                                                                                                                                                                                                                     'label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          57.1%;
61.8%;
                                                                                                                                                                                                      Cyanogen_bromide_cleavage_site
                                                                                                                                                                                                                                               Cyanogen_bromide_cleavage_site
                                                                                                                                            Hexapeptide_spacer
                                                                                                                                                              Hexapeptide_spacer
                                                                                                                                                                                                                           Cyanogen_bromide_cleavage_site
                                                                                                                                                                                                                                                                    Cyanogen_bromide_cleavage_site
                                                                                                                                                                                                                                                                                        Cyanogen_bromide_cleavage_site
                                                                                                                                                                                                                                                                                                           Cyanogen_bromide_cleavage_site
                                                                                                                                                                                                                                                                                                                                Enterokinase_cleavage_site
                                                                                                                                                                                                                                                                                                                                                    Enterokinase_recognition_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    to an fungi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
```

```
RESULT 4
AAY57142
CCCXXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      species and Acanthamoeba species), and viruses (e.g. HIV-1). They can be used for reducing or inhibiting the growth or survival of microorganisms in an environment e.g. a food or food product, a solution, an inanimate object comprising a surface, or a mammal. The present sequence is a protein comprising three copies of Indol 1-13 each separated by a hexapeptide spacer sequence. A recombinant construct encoding this sequence was used for the expression of Indol-homoserine (Hse) analog. The ability of Indol-Hse analog to maintain antimicrobial activity provides a means produce X-indolicidin analog precursors in sufficient quantities.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The patent discloses crosslinked analogs of indolicidin (Indol 1-13) which is a naturally occurring peptide isolated from bovine neutrophils and has antimicrobial activity. The crosslinked indolicidin (X-indolicidin) analogs are stable and have antimicrobial activity against gram positive and negative bacteria (e.g. Staphylococcus aureus, Escherichia coli and Salmonella typhimurium), yeasts and fungi (e.g.
                                                                                                     N-PSDB;
                                                                                                                                                                                                                                                                                                                                                          Indolicidin analogue; antimicrobial activity; helminth; bacteria; virus; treatment; inhibit growth; micro-organism; contact lens solution; transgenic plant; surgical instrument; yeast; fungi; protozoa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Candida albicans,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Crosslinked indolicidin analogs with antimicrobial activity against bacteria, yeast, fungi, protozoa and viruses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; AAZ49764
                                                   New indolicidin analogues, active against bacteria, yeast, protozoa and virus, used for, e.g. treating infections -
                                                                                                                                                  Selsted
                                                                                                                                                                                                            12-MAY-1998;
                                                                                                                                                                                                                                        05-MAY-1999;
                                                                                                                                                                                                                                                                      18-NOV-1999
                                                                                                                                                                                                                                                                                                   W09958141-A1
                                                                                                                                                                                                                                                                                                                                Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                       Indolicidin
                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-FEB-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY57142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY57142 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                          Disclosure; Fig 6; 62pp; English.
                                                                                                                                                                                (REGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11 KWPWWPWRRM-----ARIAMILPWKWPWWPWRR 38
                                                                                                                     2000-053028/04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KWPWWPWRRKHEAEPEAEPIMILK-KWPWWPWRR 36
                                                                                                       AAZ45123
                                                                                                                                                                              UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1C; Fig 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                     fusion peptide amino acid sequence
                                                                                                                                                                             CALIFORNIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                            98US-0076227
                                                                                                                                                                                                                                        99WO-US09942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cryptococcus neoformans), protozoa (e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              53pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 133.5; DB Pred. No. 9e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Giardia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2
```

This is the amino acid sequence of an example of a fusion protein which

```
RESULT 5
AAW12899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xaa1 = Ile, Leu, Val, Ala, Gl
Xaa2 = Ile, Leu, Val, Ala, Gl
Xaa3 = Pro or absent;
Xaa4 = Trp, Phe or absent;
Xaa5 = Arg, Lys or absent;
Xaa5 = Trp or Phe;
Xaa6 = Trp or Phe;
Xaa8 = homoserine (Hse), Met,
Xaa8 = at least one amino ac;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                xaa9 = at least one amino acid;
provided that if Xaa1 is present, Xaa8 = Hse, Met or Met Xaa9-Met;
and further provided that: if Xaa2 is absent, Xaa1 is absent; if Xaa3 is
absent, Xaa1 and Xaa2 are absent; if Xaa4 is absent, Xaa1, Xaa2 and Xaa3
are absent; and if Xaa5 is absent, Xaa1, Xaa2, Xaa3 and Xaa4 are absent.
The indolicidin analogues can be used to create a fusion polypeptide
consisting of the analogue linked to a peptide. The indolicidin
analogues have antimicrobial activity against gram positive bacteria,
gram negative bacteria, yeast, fungus, protozoa and viruses (e.g. HIV-1)
They are also active against helminths. The analogues can be used for
the indolicidin analogue is the limiths. The analogues can be used for
                                                                                                                                                                                                                                                                     bacterium;
antiviral;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 reducing or inhibiting growth or survival of a microorganism. They can be used for treating infections. They can also be included in a liquid such as water or an aqueous solution, e.g. contact lens solution. The analogues have potential uses in food products, and in objects such as the surface of an instrument used to prepare food or to perform surgery. Transgenic plants or animals useful in the food industry can be produced by introducing a nucleic acid molecule encoding an indolicidin analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Where:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              consists of an indolicidin analogue linked to another peptide. Peptides AAY57109-Y57138 and AAY57143-Y57144 are new indolicidin analogues, which have a homoserine residue and/or a truncated amino terminal region. The analogues have the following amino acid sequence: Xaa1-Xaa2-Xaa3-Xaa4-Xaa5-Xaa6-Pro-Xaa6-Pro-Xaa6-Pro-Xaa6-Pro-Xaa7-Xaa8
                                                                                                                                                                                     W09708199-A2.
                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                        Bacterial;
                                                                                                                                                                                                                                                                                                                                      Antimicrobial cationic peptide CP-26.
                                                                                                                                                                                                                                                                                                                                                                         10-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                            AAW12899 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                 Falla TJ,
                                                                                                                  23-AUG-1996;
                                                                                                                                                    06-MAR-1997.
                                               (UYBR-) UNIV BRITISH COLUMBIA.
                                                                                 23-AUG-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     into the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 KWPWWPWRRKHEAEPEAEPIMILK-KWPWWPWRR 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KWPWWPWRRM-----ARIAMILPWKWPWWPWRR 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           homoserine (Hse), Met,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     germline cells of such organisms.
              Gough M,
                                                                                                                                                                                                                                                                      yeast; endotoxaemia; sepsis; antibiotic; fungal; Candida albicans; sterilant; Salmonella; Yersina
                                                                                                                                                                                                                                                                                      viral; antitumour; food; preservative; inhibitor;
yeast; endotoxaemia; sepsis; antibiotic; fungal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63
                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA;
                                                                                 95US-0002687.
                                                                                                                  96WO-ІВ00996
                                                                                                                                                                                                                                                                                                                                                                                                                                         peptide;
               Hancock REW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.4%;
64.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gly
Gly
                                                                                                                                                                                                                                                                                                                                                                                                                                            16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 133.5; DB Pred. No. 9e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Met-Xaa9-Met or absent, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or absent; or absent;
                                                                                                                                                                                                                                                                                                                                                                                                                                            A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7;
                                                                                                                                                                                                                                                                                                        growth;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HIV-1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       can be
```

2

```
RESULT 6
AAY24582
ID AAY2
                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cationic peptide(s) having anti-microbial activity - used for the inhibition of bacterial and viral growth, as an antitumour agent,
                                                                                                                   Indolicidin; bacterial infection; photo-oxidised solubiliser; antimicrobial; antibiotic; antiarrythmic; surface disinfectan additive; shampoo; soap; insecticide; herbicide; preservative food; technical material.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 3; Page 66; 89pp; English.
WPI; 1998-169090/15
             Erfle D,
                           (MICR-) MICROLOGIX BIOTECH INC
                                        13-JAN-1997;
21-AUG-1996;
                                                             21-AUG-1997;
                                                                           26-FEB-1998.
                                                                                          WO9807745-A2
                                                                                                                                                      Indolicidin analogue #34.
                                                                                                                                                                                  AAY24582;
                                                                                                                                                                                               AAY24582 standard; peptide;
                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1997-179179/16
                                                                                                                                                                   18-AUG-1999
                                                                                                                                                                                                                                 ы
                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                              1 ILKKWPWWPWRRKHEAEPEAEPIMILKKWPWWPWRRK 37
                                                                                                                                                                                                                                                            16;
                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               food preservative
             Fraser JR,
                                                                                                                                                                                                                                                                                        16 AA;
                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                    (first entry)
                                         97US-0034949.
96US-0024754.
                                                             97WO-US14779
                                                                                                                                                                                                                                                                  41.3%;
             Krieger TJ,
                                                                                                                                                                                                21
                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                  Score 99.5; DB 18 Pred. No. 3.7e-06;
                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                  WPWWPWRRK
             Taylor R,
                                                                                                                           mic; surface disinfectant;
herbicide; preservative;
                                                                                                                                                                                                                                 16
                                                                                                                                                                                                                                                                          18;
                                                                                                                                                                                                                                                             0;
              West MH;
                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                           16;
                                                                                                                                                                                                                                                            21;
                                                                                                                                                                                                                                                            Gaps
```

```
RESULT 7
AAY91806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              infections caused by bacteria (Gram positive or negative, or anaerobic); fungi (yeast or moulds); parasites (protozoa, nematodes, cestodes or trematodes) or viruses. Typical of very many pathogens that can be controlled are Leishmania, Trypanosoma, Ascaris lumbricoides, Fasciola hepatica, Klebsiella pneumoniae, Bordetella pertussis, Staphylococcus aureus, Listeria, Clostridium, rotavirus and papilloma virus. Compounds derived from the analogues may be used similarly; the compounds may also be prepared from antibiotics or antiarrythmic agents. The analogues may be used therapeutically or to coat medical devices; also they are useful as surface disinfectants, as additives to shampoo or soaps, as insecticides or herbicides, or as preservatives for foods and technical materials. The analogues are administered by injection, lavage, orally or topically, generally at 0.1-50 mg/kg. These analogues have a broader spectrum of activity than indolicidin and modification as compounds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleic acid - vectors, transformed cells and antibodies, conjugates with polyoxyalkylene glycol and fatty acid to toxicity, useful therapeutically, as disinfectants etc.
                                                                                                                                                                                                                                                                                               Cationic peptide; tumour; pharmaceutical composition; cancer; treatment; leuksemia; polyoxyalkylene-modified; APO; lymphoma; multiple myeloma; breast; lung; ovary; cervix; uterus; skin; prostate; liver; colon; multidrug resistance.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Where Z = P or V; X = hydrophobic residue, preferably <math>W; B = basic aa, preferably R or K; AA = any aa; n = 0 or 1; in (II), at least 1 Z = V; in (VIII) at least 2 X = F or Y. The analogues are used to treat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY24549 to AAY24615 represent indolicidin analogues of formulae (I)-(VIII) containing up to 25 amino acids (aa): RXZXXZXB (I), BXZXXZXBB (AA),nMILBBAGS (IV), BXZXXZXBB(AA),nM (III), BBBXZXXZXB (III), BXZXXZXBBB (VIII) and BXZXXZXBBB (VIII).
                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                             06-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY91806;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAY91806 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 13; Page 89; 129pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New indolicidin analogues with antimicrobial activity and related nucleic acid - vectors, transformed cells and antibodies, also
              WPI; 2000-223549/19
                                                  Friedland HD,
                                                                                                                                                      14-JUN-1999;
                                                                                                                                                                                             23-DEC-1999
                                                                                                                                                                                                                                WO9965506-A2
                                                                                                                                                                                                                                                                                                                                                                                      Amino acid sequence of cationic peptide MBI 11D4CN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   reduces their toxicity.
                                                                                   (MICR-) MICROLOGIX BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         щ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ILKKWPWWPWRRK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA;
                                                Krieger TJ,
                                                                                                                    98US-0096541.
                                                                                                                                                         99WO-CA00552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --MILKK 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                Taylor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 99; DB
Pred. No. 5.9e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                  æ
                                                   Erfle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .9e-06;
tes 0;
                                                   Ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 21;
                                                   Fraser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                   JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    reduce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10;
                                                   West MHP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
```

۲,

```
RESULT 8
AAY24571
     Transportation of the state of 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            modification of peptides with APO increases their activity against tumour cells, including those with a multidrug resistant phenotype. The pharmaceutical composition can be used to treat tumours, specifically lymphoma, leukaemia, multiple myeloma, or tumours of breast, lung, ovary, cervix, uterus, skin, prostate, liver and colon.
AAX24549 to AAY24615 represent indolicidin analogues of formulae (I)-(VIII) containing up to 25 amino acids (aa): RXZXXZXB (I), BXZXXXZXB (II), BXZXXXZXB (II), BXZXXXZXBBA (AA),NMILBBAGS (IV), BXZXXXZXBBA (AA),NMILBBAGS (IV), BXZXXXZXBBB (VIII) and BXZXXXXBBB (VIII) (V), LBBNXZNXXXRK (VI), LKNXZXXZXRK (VII) and BXZXXXXBBB (VIII) (V), LBBNXZNXXXRK (VI), LKNXZXXZXRK (VII) and BXZXXXXBBB (VIII) where Z = P or V; X = hydrophobic residue, preferably W; B = basic aa, preferably R or K; AA = any aa; n = 0 or 1; in (II), at least 2 x = F or Y. The analogues are used to treat
                                                                                                                                                                                                                                                                        New indolicidin analogues with antimicrobial activity and related nucleic acid - vectors, transformed cells and antibodies, also conjugates with polyoxyalkylene glycol and fatty acid to reduce toxicity, useful therapeutically, as disinfectants etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This sequence represents a cationic peptide amino acid sequence, can be used in the pharmaceuthcal composition of the invention. Invention relates to a pharmaceutical composition containing at activated polyoxyalkylene (APO)-modified cationic peptide. The
                                                                                                                                                                                                                             Claim 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-JAN-1997;
21-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         additive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antimicrobial; antibiotic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY24571 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel pharmaceutical composition containing optionally activated polyoxyalkylene-modified cationic peptides, useful for treating tumours
                                                                                                                                                                                                                                                                                                                                                                                                                       WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MICR-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9807745-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indolicidin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indolicidin analogue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1998-169090/15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             technical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MICROLOGIX BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                          Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    shampoo; soap; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Page 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bacterial infection; photo-oxidised solubiliser;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                    89; 129pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0034949.
96US-0024754.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97WO-US14779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             material.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41.18; 64.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Krieger TJ,
                                                                                                                                                                                                                          English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antiarrythmic; surface disinfectant;
nsecticide; herbicide; preservative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MILKK 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 99;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Taylor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .9e-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        West
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21;
                                                                                                             XB (I), BXZXXZXB
BXZXXZXBB(AA)nM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       at least one
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
```

```
fungi (yeast or moulds); parasites (protozoa, nematodes, cestodes or trematodes) or viruses. Typical of very many pathogens that can be controlled are Leishmania, Trypanosoma, Ascaris lumbricoides, Fasciola hepatica, Klebsiella pneumoniae, Bordetella pertussis, Staphylococcus aureus, Listeria, Clostridium, rotavirus and papilloma virus. Compounds derived from the analogues may be used similarly; the compounds may also be prepared from antibiotics or antiarrythmic agents. The analogues may be used therapeutically or to coat medical devices; also they are useful as surface disinfectants, as additives to shampoo or soaps, as insecticides or herbicides, or as preservatives for foods and technical materials. The analogues are administered by injection, lavage, orally or topically, generally at 0.1-50 mg/kg. These analogues have a broader spectrum of activity than indolicidin and modification as compounds
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                               infections caused by bacteria (Gram positive or negative,
                                                     their
21
AA;
                                                  toxicity.
                                                                                                                                                                                                                                                                                                                                                                                                                                     or
                                                                                                                                                                                                                                                                                                                                                                                                                                     anaerobic);
```

```
Query Match
Best Local
                                  Matches
                1 ILKKWPWWPWRRKHEAEPEAEPIMILKK
ILKKWPWWPWRR-----IMILKK
                                 18; Conser
                                  Conservative
                                        40.7%;
                                 0;
                                         Score 98; I
Pred. No. 7
                                 Mismatches
18
                28
                             DB 1.
7.8e-06;
0;
                                                 Length
                                 Indels
                                                  21,
                                 10;
```

۲,

밁 Ωy

```
RESULT 9
AAY91808
                          06-JUN-2000
                                                                       AAY91808
Amino acid sequence of cationic peptide MBI 11D6CN
                                                                      standard;
                                                                    Peptide;
                        entry)
                                                                      21
                                                                      Ą
```

Cationic peptide; tumour; treatment;

multidrug resistance breast; lung; Cationic peptide; tumour; pharmaceutical leukaemia; polyoxyalkylene-modified; APO ovary; cervix; skin; APO; composition; cancer; treatme
; lymphoma; multiple myeloma; prostate; liver; colon;

Synthetic

WO9965506-A2

23-DEC-1999

14-JUN-1999;

99WO-CA00552

12-JUN-1998; 98US-0096541

(MICR-) MICROLOGIX BIOTECH

HD, Krieger ТJ, Taylor R, Erfle D, Fraser JR, West MHP;

polyoxyalkylene-modified Novel pharmaceutical composition containing polyoxyalkylene-modified cationic peptides,

Disclosure;

Page

15;

94pp;

English

optionally useful for

activated treating t

tumours

This sequence represents a cationic peptide amino acid sequence, wh can be used in the pharmaceutical composition of the invention. The invention relates to a pharmaceutical composition containing at lea activated polyoxyalkylene (APO)-modified cationic peptide. The modification of peptides with APO increases their activity against cells, including those with a multidrug resistant phenotype. The pharmaceutical composition can be used to treat tumours, lymphoma, leukaemia, multiple myeloma, or tumours of brea of breast, specifically at least one which

```
AAY24570
ID AAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SQX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
                                                                                                                                                                                    C AAY24549 to AAY24615 represent indolicidin analogues of formulae

(I)-(VIII) containing up to 25 amino acids (aa): RXZXXZXB (I), BXZXXZXB

(II), BBBXZXXZXB (III), BXZXZXBBRI(A), DMILBBAGS (IV), BXZXXZXBB (A), DM

(V), LBBXZZXXZXB (VI), LKRXZXXXRRK (VII) and BXZXXXZXBB (VIII).

(Where Z = P or V; X = hydrophobic residue, preferably W; B = basic aa, preferably R or K; AA = any aa; n = 0 or 1; in (II), at least 1 Z = V;

(in (VIII) at least 2 X = F or Y. The analogues are used to treat

(infections caused by bacteria (Gram positive or negative, or anaerobic);

(infections caused by bacteria (Gram positive or negative, or anaerobic);

(infections caused by bacteria (Gram positive or negative, or anaerobic);

(infections caused by bacteria (Gram positive or negative, or anaerobic);

(controlled are Leishmania, Trypanosoma, Ascaris lumbricoides, Fasciola controlled are Leishmania, Trypanosoma, Ascaris lumbricoides, Tabella de lumbricoides, Tabella de lumbricoides, Campounds derived from the analogues may be used similarly; the compounds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New indolicidin analogues with antimicrobial activity and related nucleic acid - vectors, transformed cells and antibodies, also conjugates with polyoxyalkylene glycol and fatty acid to reduce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13-JAN-1997;
21-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO9807745-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indolicidin; bacterial infection; photo-oxidised solubiliser;
antimicrobial; antibiotic; antiarrythmic; surface disinfectant;
additive; shampoo; soap; insecticide; herbicide; preservative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY24570;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY24570 standard; peptide; 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                            insecticides or herbicides, or as preservatives for foods and technical materials. The analogues are administered by injection, lavage, orally or topically, generally at 0.1-50 mg/kg. These analogues have a broader
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1998-169090/15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Erfle D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MICR-) MICROLOGIX BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indolicidin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-AUG-1999
                                                                                                                                               also be prepared from antibiotics or antiarrythmic agents. The analogumay be used therapeutically or to coat medical devices; also they are
    reduces their toxicity
                           spectrum of
                                                                                                                      useful as surface disinfectants, as additives to shampoo or soaps, as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ILKKWPWWPWRR-----IMILKK 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          technical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 Similarity
18; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Page 89; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 useful therapeutically, as disinfectants etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fraser JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
                           activity than indolicidin and modification as compounds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            analogue #22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96US-0024754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0034949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97WO-US14779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          material.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40.7%;
64.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Krieger TJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 98;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Taylor R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 21;
7.8e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   West MH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10;
                                                                                                                                                                          The analogues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ب
```

```
RESULT 11
AAY91807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                        Sox
                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 17; Conser
                                                            Query Match
Best Local
                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cationic peptide; tumour; pharmaceutical composition; cancer; treatment; leukaemia; polyoxyalkylene-modified; APO; lymphoma; multiple myeloma; breast; lung; ovary; cervix; uterus; skin; prostate; liver; colon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                            This sequence represents a cationic peptide amino acid sequence, which can be used in the pharmaceutical composition of the invention. The invention relates to a pharmaceutical composition containing at least one activated polyoxyalkylene (APO)-modified cationic peptide. The modification of peptides with APO increases their activity against tumour cells, including those with a multidrug resistant phenotype. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-JUN-2000
                                                                                                                                                                                                                                                                                    Novel pharmaceutical composition containing polyoxyalkylene-modified cationic peptides,
                                                                                                                                                                                                                                                                                                                            WPI; 2000-223549/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9965506-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              multidrug resistance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Amino acid sequence of cationic peptide MBI 11D5CN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY91807 standard; Peptide;
                                                                                                  Sequence
                                                                                                                       lymphoma, leukaemia, multiple myeloma, or cervix, uterus, skin, prostate, liver and
                                                                                                                                                                                                                                                  Disclosure; Page 15; 94pp; English.
                                                                                                                                                                                                                                                                                                                                                    Friedland HD,
                                                                                                                                                                                                                                                                                                                                                                                                     12-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                              14-JUN-1999;
                                                                                                                                                 pharmaceutical composition can be used to treat tumours, specifically
                                                                                                                                                                                                                                                                                                                                                                            (MICR-) MICROLOGIX BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 ILKKWPWWPWRR-----MILKK 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
             1 ILKKWPWWPWRRKHEAEPEAEPIMILKK 28
                                                 17;
                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20
                                                                                                  20 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                                                                                                                   Krieger TJ, Taylor R,
                                                                                                                                                                                                                                                                                                                                                                                                      98US-0096541.
                                                                                                                                                                                                                                                                                                                                                                                                                             99WO-CA00552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               38.8%;
                                                             38.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 93.5; DB 19
Pred. No. 2.7e-05;
                                                              Pred.
                                                                         Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                 Mismatches
  17
                                                             93.5; DB 21
No. 2.7e-05;
                                                                                                                                                                                                                                                                                                                                                      Erfle D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 19;
                                                                                                                           tumours of breast, colon.
                                                                          DB 21;
                                                                                                                                                                                                                                                                                        optionally useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                   0,
                                                                                                                                                                                                                                                                                                                                                      Fraser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                          Length
                                                   Indels
                                                                                                                                                                                                                                                                                        activated treating t
                                                                                                                                                                                                                                                                                                                                                       JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20;
                                                                            20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11;
                                                    11;
                                                                                                                                        lung, ovary,
                                                                                                                                                                                                                                                                                                                                                       West MHP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                   Gaps
                                                                                                                                                                                                                                                                                           tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۲.
                                                   1;
```

RESULT 12 AAW12873 ID AAW12

AAW12873 standard;

peptide; 13

A

```
RESULT 13
AAY24609
                                                                                                                                                                                                                                 δÃ
                                                                            밁
                                                                                                                                                                                                                                                       The present sequence represents a specifically claimed novel isolated CC cationic peptide which has antimicrobial activity. The amino acid CC sequence of antimicrobial cationic peptides (including the present CC sequence) is selected from: xixiProx2x3xXPro(x2x2pro)nxx3(x5)o; CC xixiProx2x3x4(x5)prerox2x3x3; xixix3(ProTrp)ux3x2x5x2x2x5x2(x5)o; CC xixiProx2x3x4(x5)prerox2x3x3; xixix3(ProTrp)ux3x2x5x2x2x5x2(x5)o; CC xixiX3x3x2pro(x2x2pro)nx2(x5)m; where m = 1-5; n = 1-2; o = 2-5; r CC = 0-8; u = 0-1; x1 = Tle, Leu, Val, Phe, Tyr, Trp or Met; x2 = Trp or CC Pro. The peptides are preferably amidated or carboxymethylated. The peptides may be used in methods for inhibiting the growth of a bacterium CC or yeast, or for inhibiting an endotoxaemia or sepsis associated CC disorder in a subject. The peptides have a broad activity against the care useful as antitumour agents and/or antiviral agents. The peptides are useful as antitumour agents and/or antiviral agents. The peptides CC may be used as sterilants or preservatives of materials susceptible to CC microbial or viral contamination, e.g. in processed foods to inhibit CC salmonella, Versina and Shigella. The peptides are compact and tend to them to span the membrane with relatively few amino acids. The peptides CC may be used as sterilants or preservatives of materials susceptible to CC microbial or viral contamination, e.g. in processed foods to inhibit CC them to span the membrane with relatively few amino acids. The peptides of them to span the membrane with relatively few amino acids. The peptides conservatives of materials and in CC andition, some of then possess anti-endotoxin activity.

CC N.B. The present sequence represents SEQ ID NO:1 in the claims and cc andition, some of the specification, but differs slightly from the SEQ ID NO:1 in the sequence listing on page 51 of the specification (see AAW27179).
                                                                                                                                                       Matches
                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cationic peptide(s) having anti-microbial activity - used for the inhibition of bacterial and viral growth, as an antitumour agent,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Shigella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacterial; viral; antitumour; food; preservative; inhibitor; bacterium; yeast; endotoxaemia; sepsis; antibiotic; fungal; antitiral; Candida albicans; sterilant; Salmonella; Yersina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1997-179179/16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-MAR-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antimicrobial cationic peptide CP-11.
                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (UYBR-) UNIV BRITISH COLUMBIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-AUG-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9708199-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW12873;
                                                                            ш
                                                                                                              1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   as a
                                                                          ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2; Page 65;
                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   food
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gough M,
                                                                                                                                                                                                                               13
                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                               A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               preservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95US-0002687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96WO-IB00996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          89pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hancock REW;
                                                                                                                                                    0;
                                                                                                                                                                       Score 91;
Pred. No.
                                                                                                                                                       Mismatches
                                                                                                                                            DB 16,
J. 3.5e-05;
O;
                                                                                                                                                                                     Length 13
                                                                                                                                                    Indels
                                                                                                                                                  0;
                                                                                                                                                  Gaps
                                                                                                                                                  0,
```

```
B
                                             Ş
                                                                                                                                                                                             AAY24549 to AAY24615 represent indolicidin analogues of formulae

(I)-(VIII) containing up to 25 amino acids (aa): RXZXXZXB (I), BXZXXZXB

(II), BEBXZXXZXB (III), BXZXXZXBBBIA(AA)nMILBBAGS (IV), BXZXXZXBB (AA)nM

(V), LBBAXZXXXXRK (VI), LKAXZXXXXRRK (VI) and BXZXXXXBBB (VIII).

(V), LBBAXZXXXXRK (VI), LKAXZXXXXRRK (VII) and BXZXXXXXBBB (VIII).

(V), LBBAXZXXXXXRK (VI), LKAXZXXXXRRK (VII) and BXZXXXXXBBB (VIII).

(V), LBBAXZXXXXXRK (VI), LKAXZXXXXRRK (VII) and BXZXXXXXBBB (VIII).

(V), LBBAXZXXXXXRK (VI), LKAXZXXXXRRK (VII) and BXZXXXXXBBB (VIII).

(V), LBBAXZXXXXRK (VI), LKAXZXXXXRRK (VII) and BXZXXXXXBBB (VIII).

(V), LBBAXZXXXXB (III), BXZXXXXXBBB (VIII) and CBXZXXXXBBB (VIII).

(V), LBBAXZXXXXB (III), BXZXXXXBBB (VII) and CBXZXXXXBBB (VIII).

(VI), BBAXZXXXXB (III), BXZXXXXBBB (VII), BXZXXXXBB (VII), BXZXXXXBB (VII), BXZXXXXBB (VII), BXZXXXXBB (VII), BXZXXXXBB (VII), BXZXXXXBBB (VIII).

(V), LBBAXZXXXXB (III), BXZXXXXBBB (VIII), BXZXXXXBB (VII), BXZXXXXBB (VIII), BXZXXXXBB (VII), BXZXXXXBBB (VIII), BXZXXXXBBB (VIII), BXZXXXXBB (VIII), BXZXXXXBB (VIII), BXZXXXXBB (VIII), BXZXXXXBBB (VIII), BXZXXXXBBB (VIII), BXZXXXXBBB (VIII), BXZXXXXBBB (VIII), BXZXXXXBB (VII), BXZXXXXBBB (VIII), BXZXXXXBBB (VII), BXZXXXXBBB (VIII), BXZXXXBBB (VIII), BXZXXXXBBB (VIII), BXZXXXBBB (VIII), BXZXXXXBBB (VIII), BXZXXXXBBB (VIII), BXZXXXXBBB 
                                                                                           Query Match
Best Local S
Matches 13
                                                                                                                                                                                                                                                            useful as surface disinfectants, as additives to shampoo or soaps, as insecticides or herbicides, or as preservatives for foods and technical materials. The analogues are administered by injection, lawage, orally or topically, generally at 0.1-50 mg/Kg. These analogues have a broader spectrum of activity than indolicidin and modification as compounds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indolicidin; bacterial infection; photo-oxidised solubiliser; antimicrobial; antibiotic; antiarrythmic; surface disinfectant; additive; shampoo; soap; insecticide; herbicide; preservative; food; technical material.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleic acid - vectors, transformed cells and antibodies, also conjugates with polyoxyalkylene glycol and fatty acid to reduce toxicity, useful therapeutically, as disinfectants etc.
                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New indolicidin analogues with antimicrobial activity and related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1998-169090/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Erfle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-JAN-1997;
21-AUG-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9807745-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY24609 standard; peptide; 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 1; Page 32; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MICR-) MICROLOGIX BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indolicidin analogue #61.
  Ц
                                           1 ILKKWPWWPWRRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'n
                                                                                           13; Conservative
                                                                                                                                                                                                                                             their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fraser JR,
                                                                                                                                                                                        13
                                                                                                                                                                                                                                        toxicity.
                                                                                                                                                                                        AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97US-0034949
96US-0024754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97WO-US14779.
13
                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Krieger TJ,
                                                                                                                 Score 91; Pred. No.
                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A
                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Taylor
                                                                                           DB 19; 1
. 3.5e-05;
ches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          West
                                                                                                                                        Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          X
                                                                                           0;
```

RESULT 14 AAW66378

0

```
RESULT 15
AAW71690
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                     QΥ
Query Match
Best Local :
                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-FEB-1998;
10-MAR-1997;
20-AUG-1997;
26-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                             The present sequence represents a specifically claimed cationic peptide from the present invention. The present invention describes compositions and methods for treating infection, especially bacterial infections. The compositions and methods use cationic peptides in combination with an antibiotic agent which are then administered to a patient to enhance the activity of the antibiotic agent, to overcome: (a) tolerance; (b) acquired resistance; and (c) inherent resistance. The combinations of antibiotics and cationic peptides can provide synergistic activity against a microorganism that is tolerant, inherently resistant, or has acquired resistance to an antibiotic agent. They can be used for killing acquired resistance to an antibiotic agent. They can be used for killing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9840401-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bacterial infection; tolerance; and bacteria; fungus; parasite; virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cationic peptide of claim 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW66378 standard; peptide; 13 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New indolicidin peptide analogues - useful for, e.g. enhancing activity of antibiotic or overcoming tolerance, acquired resistance or inherent resistance of microorganisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indolicidin analogue; resistance; cationic peptide; antibiotic;
bacterial infection; tolerance; antibacterial; microorganism;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fraser JR,
                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (MICR-) MICROLOGIX BIOTECH INC.
                                                                                                                                      AAW71690 standard; Peptide; 13
           MBIII; cationic peptide; plasmid pKLI; small cryptic plasmid; replication; RepA; vector; RAMP.
                                                     Cationic peptide MBI11 (MW 1879).
          replication;
                                                                                   11-JAN-1999
                                                                                                                                                                                                                                                                                                                                                   .g. bacteria, fungi, parasites and viruses
                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                            ш
                                                                                                                                                                                                                                     1 ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998-520800/44.
                                                                                                                                                                                                            ILKKWPWWPWRRK 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Page 93; 105pp; English.
                                                                                                                                                                                                                                                                                                                          13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       McNicol PJ,
                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                           <u>Α</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0030619.
97US-0040649.
97US-0915314.
97US-0060099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98WO-CA00190
                                                                                                                                                                                                                                                                                37.8%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       West MHP
                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #5
                                                                                                                                                                                                                                                                                  Score 91; DB 19;
Pred. No. 3.5e-05;
                                                                                                                                           ΑA
                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                              Length 13;
                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                         0
```

Search completed: December 11, Job time: 35 secs

2002,

15:38:44

0;

```
В
                       ρ
                                                    Query Match
Best Local S
Matches 13
                                                                                                                                                 MBIII is a small (mol.wt. 1879) cationic peptide. DNA encoding MBIII has been incorporated into vector pRJh-BI, in which the replication leader (R21) sequence of RepA (see also AAW71686) is joined to 2 Hpro peptides (see also AAW71692), to provide a vector for expression of MBIII in host cells. The invention provides controlled replication plasmid vectors (RAMP vectors) comprising a replication origin of a small cryptic plasmid and a gene encoding RepA. The vectors can reach very high levels of plasmid replication, but are not lethal to the host cell, and can be used to direct the high level expression of e.g. cytokines,
                                                                                                                                                                                                                                                                                                                                  Increasing plasmid copy number in a cell with the repA gene product - and an small cryptic plasmid ori sequence, useful for high level expression of e.g. cytokines, antigens or therapeutic proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9841636-A2
                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1998-531571/45
                                                                                                                                                                                                                                                                                                                                                                                                                        Burian J, Kay WW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BURI/) BURIAN J.
(KAYW/) KAY W W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-SEP-1998
                                                                                                             Sequence
                                                                                                                                       antigens and therapeutic proteins.
                                                                                                                                                                                                                                                                                                          Example 13; Page 54; 82pp; English.
                                                     Local Similarity
les 13; Conserv
 1 ILKKWPWWPWRRK
                         1 ILKKWPWWPWRRK 13
                                                                                                             13 AA;
                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97US-0040722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98WO-CA00214.
 13
                                                  37.8%; 5c.
100.0%; Pr
                                                                     Score 91;
Pred. No.
                                                         Mismatches
                                                           3.5e-05;
hes 0;
                                                                                    DB 19;
                                                                                   Length 13;
                                                           Indels
                                                            0;
                                                            Gaps
```